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## ABSTRACT

To determine the relative effectiveness of different methods of preschool educational intervention for disadvantaged children, comparisons were made of five programs whose levels of structure ranged from the traditional nursery school to a highly structured preschool. Subjects were 79 4-year-olds representing a wide range of ability levels. Intervention effects were evaluated at the end of the preschool year and also, at the end of the kindergarten year. Follow-up data were collected at the end of first grade for three of the programs. Preliminary results were differential and encouraging for the more structured programs. The ameliorative preschool provided a framework for the subsequent investigation of related variables: effects of initiating the program with 3-year-old, low IQ children, and the feasibility of using paraprofessional staff as teachers. Included in this report are studies undertaken to provide instructional programs for children under 3 years and to find techniques to train mothers in home intervention. (MS)

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RESEARCH AND DEVELOPMENT PROGRAM  
ON PRESCHOOL DISADVANTAGED CHILDREN

Investigations  
of  
Classroom and At-Home Interventions

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## PREFACE

The studies and data presented in this report aim at two objectives. First, is curriculum development and evaluation; second is research on social and psychological factors in the intellectual functioning of culturally disadvantaged children.

Under the overall direction of Dr. Merle Karnes a number of highly qualified investigators have pursued these objectives with diligence and ingenuity. Furthermore, they have, in important instances, pursued objectives to conclusions which are at the very least provocative. To many they will be startling and disturbing. Thus the sociologists, Farber, Lewis and Harvey conclude in Volume III:

Technical emphasis in educational reform (particularly that which is intended for the dispossessed) may preclude any possibility of educators making a positive contribution to the obliteration of the social and economic injustices which victimize millions of Americans...Technical emphasis in education, as it is in welfare services, is a symptom of a condition which may be termed progressive status-quoism.

Volumes I and II deal largely with the first objective, curriculum development and evaluation, and as such are excellent examples of the highest quality of the "technical emphasis" to which the sociologists on the team refer. In Volume I, Karnes, Hodgins and Teska attack such concerns as the relative effectiveness of five differing methods of preschool educational intervention with the disadvantaged child. Other concerns are to determine how long such special intervention must be continued, the optimum age for intervention, and, how much can be done by paraprofessionals in the classroom and by mothers in the home.

In Volume II, Bereiter, Engelmann, Washington and colleagues describe efforts to burrow deeper into the processes and products of educational intervention on behalf of the disadvantaged. Taking the view that the Stanford-Binet may be considered as an achievement test for the "hidden curriculum" of the middle-class home, they boldly set about to construct a compensatory curriculum geared to the Binet, and to test the curriculum. In so doing they throw new light on the criticism that substantial I.Q. gains in programs for

the disadvantaged are merely a result of "teaching for the test." In another section Bereiter grapples with the theoretical complexities of interpreting changes in I.Q.

Volume III deals almost exclusively with the description and analysis of family and kinship, neighborhood and community variables that bear on children's readiness and competence to enter into formal education. Farber examines this transition from home to school in the perspective of the necessity of articulation and accommodation of private and public cultures. He posits that where private and public culture clash those families and individuals whose way of life is incompatible with the public culture are superfluous population. Harvey describes life in a white, lower class, semi-rural community. Because his frame of reference is the same as that of Farber and Lewis, his findings extend the implications of the total report beyond the question of racial differences. Lewis presents a sociologically derived model and definition of "competence." For him, competence is a social dimension and in that perspective input from the family, neighborhood, and community sets severe limits on the part that formal schooling can play in the development of competence.

This is a multi-disciplinary multi-volume work which on the one hand undertook, with success, to add to our knowledge of educational curricula and techniques which enhance the academic performance of culturally disadvantaged children. On the other hand, an equally important objective was to inquire into factors which underlay the intellectual functioning of children. In these volumes we are confronted with the cruel paradox that acceptance of conclusions arrived at in pursuit of the second objective, raises grave doubts as to the value of present day endeavors aimed at the first objective. Resolution of this paradox will not be for the timid.

William P. Hurder  
Director, Institute for  
Research on Exceptional Children

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Merle B. Karnes  
Principal Investigator,  
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## INTRODUCTION

In the broad social concern with the poor and disadvantaged of our population which has characterized the 1960s, no program has appeared more hopeful than preschool education. Here, if anywhere, it seemed, was the point at which the cycle of deprivation might be broken, the predictable sequence of academic failure and early drop-out interrupted. The assumption that preschool experience would allow disadvantaged children to compete more favorably in the formal school setting was embodied in federal social policy through the support of Head Start without any real agreement, however, about the educational approaches most appropriate for this purpose.

It has long been supposed that traditional nursery schools prepare children in important ways for the educational experience they are soon to undertake in the public schools. Little research has, in fact, been done on the question of whether nursery school experience does have a lasting effect upon school adjustment and academic success, but we may assume that for children of middle-class backgrounds the preschool is at least moderately relevant to their later and more formal education. Such nursery schools can obviously assume the conventional advantages of middle-class life in the children who come to them, and they can count as well upon the support and interest of the parents, who are sure to have conventional academic aspirations for their children.

When we turn to the question of preschool education for children who are socially and economically disadvantaged, however, these facts are changed. By definition these children do not have the kind of background which middle-class children bring to the preschool. The cumulative deficiency in language development of the disadvantaged child (Deutsch, 1963), particularly as it relates to the acquisition of more formal language structures in the academic setting (Bernstein, 1961; Jensen, 1963; John and Goldstein, 1964) and to the development of the more abstract cognitive abilities (Ausubel, 1964), is generally accepted as the major challenge to preschool programming. Further limitations on the school progress of the disadvantaged child may be imposed by inadequate perceptual development (Deutsch, 1965), by reduced ability to concentrate and persevere (Deutsch, 1960), by inadequate motivation toward school success (Gordon and Wilkerson, 1966, p. 17), and by a depressed self-concept (Goff, 1954; Silverman, 1963). Whether the traditional nursery school experience can overcome these debilitating effects on learning ability of a disadvantaged environment or whether special educational programs must be designed has not been clearly resolved.

The studies in this volume generally focused on four major questions concerning the educational development of the disadvantaged preschool child:

1. What kind of classroom intervention is most effective?
2. How long must special classroom intervention be maintained to stabilize effective functioning?
3. At what age must educational intervention be initiated to prevent learning disabilities associated with cultural deprivation?
4. Can effective educational development be achieved by paraprofessional classroom teachers and mothers at home?

A major area of investigation was the comparative evaluation of five preschool interventions initiated with four-year-old disadvantaged children selected to represent a wide range of ability levels. These classroom interventions were chosen to represent levels of structure along a continuum from the traditional nursery school to the highly structured preschool. The effects of the five interventions were evaluated at the end of the preschool year and again at the end of the kindergarten year. For three of these interventions it was possible to obtain follow-up data at the end of first grade. The first two studies presented in this volume, then, are an evaluation of the immediate effectiveness of these interventions as well as the stability of improved performance as reflected in subsequent academic achievement in the public schools. Since preliminary results were differential as well as highly encouraging for the more structured programs, one of these (the Ameliorative preschool) provided a framework for the subsequent investigation of related variables: (a) the effects of initiating the Ameliorative program with three-year-old children and with low IQ children and (b) the feasibility of using paraprofessional staff as teachers in the Ameliorative preschool. Finally, in an effort to bring the advantages of preschool training to children at a still earlier age, a series of studies was undertaken to provide instructional programs for children under three years of age and to develop techniques that could be used in training mothers to intervene at home in the educational development of their children.

**SUMMARY I. The Effects of Five Preschool Interventions:  
Evaluations over Two Years**

This study was designed to evaluate the differential effects of five preschool interventions through batteries of standardized tests administered prior to the intervention, following the preschool year, and one year later at the end of kindergarten. The classroom interventions were chosen on theoretical as well as practical bases to represent levels of structure along a continuum from the traditional nursery to the highly structured preschool. The nature of teacher-child interaction was considered to be the critical dimension of structure: as the specificity and intensity of this interaction increases so does the degree of structure. Two programs (Traditional and Community-Integrated) represented the less structured end of the continuum; a third (Montessori) embodied an established theory which includes much that can be identified with a child-centered or traditional approach and a methodology which incorporates considerable structure; the fourth (Ameliorative) and the fifth (Direct Verbal) programs fell at the highly structured end of the continuum.

**METHOD**

**The Five Programs of Preschool Intervention**

During the first year of the study, 75 disadvantaged children, five class units of 15 children each, participated. Two class units were assigned to the Traditional program, two to the Ameliorative program, and one class unit to the Direct Verbal program. In the second year, an additional class unit was enrolled in the Direct Verbal program and a class unit was enrolled in each of the remaining intervention programs (Community-Integrated and Montessori). Children attended daily sessions of approximately two hours and fifteen minutes for a period of no less than seven or more than eight months.

The five programs of classroom intervention may be distinguished as follows:

1. Major goals of the Traditional nursery school program were to promote the personal, social, motor, and general language development of the children. Teachers were instructed to capitalize on opportunities for incidental and informal learning, to encourage the children to talk and to ask questions, and to stimulate their interest in the world around them. Music, story, and art activities were scheduled regularly. Outdoor play

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was a part of the daily routine; indoor play focused on a doll and housekeeping center, a vehicle and block center, and a small toy center.

2. The Community-Integrated program, operated at four neighborhood centers, provided a traditional nursery school experience similar to the one above. These centers were licensed by the state and were sponsored by community groups, and classes were composed predominately of middle- and upper-class Caucasian children. Two to four disadvantaged children from the research class unit attended sessions at one of these four centers. Socio-economic integration was the pertinent variable rather than racial integration which was achieved in all programs. Central to the altered classroom dynamics in the Community-Integrated program was the presence of an advantaged-peer language model in addition to the teacher model provided in all programs. To the extent that children in a traditional nursery school acquire language from each other, the Community-Integrated program provided the optimum setting for verbal development.

3. The Montessori program was administered by the local society, and staff and classroom materials met Montessori standards. The daily schedule began with a routine health check and toileting. The group then met "on the line" for conversation, songs, finger plays, and exercises. The next half hour was devoted to "spontaneous choice" of approved materials and was followed by a second period on the line devoted to musical activities, stories, and games. A "practical life" demonstration, juice time, toileting, the silence exercise, and tidying the classroom occupied the next half hour. The final ten or twenty minutes of the session were given over to playground activities or supervised short walks. The specific nature of the "prepared environment" raised the level of structure within the Montessori classroom beyond that of the two traditional programs. The Montessori teacher did not, however, maintain the high level of specific control over the actions of the children required by the teachers in the two highly structured programs. Structure in the Montessori program derived not from direct teacher-child interaction but from the prescribed manner in which the child learned from the materials.

4. In the Ameliorative program, verbalizations in conjunction with the manipulation of concrete materials were considered to be the most effective means of establishing new language responses. A game format (card packs, lotto games, models and miniatures, sorting, matching, and classifying games) created situations where verbal responses could be made repeatedly in a productive, meaningful context without resorting to rote repetition; often the child could visually and motorically assess the correctness of his thinking before he made an appropriate verbalization. If the child was unable to make a verbal response, the teacher supplied an appropriate model; when he began to initiate

such responses, the teacher had the opportunity to correct, modify, and expand his verbalizations.

Each class unit (N=15) was divided into three groups on the basis of Binet IQ with one teacher for each group. The daily schedule was divided into three 20-minute structured learning periods: math concepts, language arts and reading readiness, and science-social studies. A large room where the 15 children could gather for group activities was available; however, instruction took place in cubicles which contained materials appropriate to the three content areas, and each teacher moved from one cubicle to another with her group of five children. Concepts taught during the structured periods were reinforced during directed play and especially during the music period.

The low pupil-teacher ratio allowed for differentiation of instruction to provide a high success ratio for each child. Immediate correction of incorrect responses (often through the repetition of model sentences or through duplicate layouts of small manipulative materials) and reinforcement of appropriate responses (usually through praise) assured the children of their competencies in handling curricular requirements and enhanced their intrinsic motivation to learn. Frequent review extended content previously presented and provided opportunities to use further the vocabulary and sentence structures which had been taught.

5. In the Direct Verbal program intensive oral drill in verbal and logical patterns was chosen as the mode for instruction since disadvantaged children were considered adequate in perceptual and motoric skills but inadequate in verbal and abstract skills. The class unit was divided into three groups of five children, initially on the basis of Stanford-Binet IQ scores and teacher evaluation. Each of the three teachers conducted a 20<sup>00</sup> minute learning period (language, arithmetic, or reading) for the three groups. The general instructional strategy was that of rule followed by application. A verbal formula was learned by rote and then applied to a series of analogous examples of increasing difficulty.

The language program focused on the minimum essentials of language competence. The objective was a kind of basic English that teacher and child may use in the conduct of elementary education--a basic English which does not embody all the concepts a child should master but which provides a medium through which those concepts may be learned. The process began by teaching a basic identity statement applied to familiar objects: "This is a \_\_\_\_\_. This is not a \_\_\_\_\_." When this statement was mastered, new language patterns were introduced: plurals, polar sets, prepositional phrases, sub-class nouns, active verbs, common tenses, and personal pronouns. The program culminated in the use of language for deductive reasoning.

The arithmetic program emphasized a "science of counting" without reference to phenomena that can be interpreted arithmetically. The disadvantaged child was assumed to lack the verbal and logical sophistication necessary to abstract arithmetic principles from everyday experiences. After the initial teaching of counting, arithmetic was taught through equations emphasizing the idea that any equation could be read as a statement of fact and also as an instruction that told how the fact could be established through a counting operation. The kind of pattern drill used in the language program to teach basic grammatical rules was also used in arithmetic.

The children were taught to read with a modified Initial Teaching Alphabet. Innovations had to do with the formation of long-vowel sounds and the convention for blending words. As early as possible, the children were introduced to controlled-vocabulary stories written by the reading staff.

Songs were especially written for the music period and provided practice in language operations which had been taught. Storytelling also provided additional practice in language operations and involved more question-and-answer activity than is common in reading stories to children.

#### Selection of Subjects

The subjects for this study were selected from the preschool population of the economically depressed neighborhoods of Champaign-Urbana, a community of 100,000 in central Illinois. Families judged by public aid and school authorities to be economically and educationally deprived were canvassed for children who had no previous preschool experience and who would be four years old before the first of December, an age appropriate for enrollment in public kindergarten the following year. A home interviewer determined final eligibility after she had completed a detailed family history. In addition, interviewers canvassed certain acutely disadvantaged sections of the city to locate children new to the community or otherwise unknown to the referring agencies.

The 1960 Stanford-Binet Intelligence Scale was administered to eligible children who were then stratified on the basis of their intelligence quotients into three groups: IQ scores 100 and above, 90 through 99, and 70 through 89. The children were assigned to class units (N=15) in which one-third of each class consisted of children who had scored in the "high" IQ range; one-third, the "middle" range; one-third, the "low" range. Mean intelligence quotients were then computed for the three strata and for each class unit. These means were evaluated for comparability between class units as a whole and for strata between classes. Class units were examined to assure comparability of sex and race.

When necessary, substitutions were made between classes to maintain an approximate ratio of 67% Negro children and 33% Caucasian children and a ratio of approximately 50% male and 50% female children. Finally, each class unit was randomly assigned to a particular intervention program.

### Evaluation Procedures

Since the intent of this study was to evaluate over a two-year period the effectiveness of five classroom interventions upon the overall school readiness of disadvantaged children, evaluations were made prior to the intervention, at the end of the preschool year, and at the end of the kindergarten year in the following areas:

1. Intellectual functioning as measured by the 1960 Stanford-Binet Individual Intelligence Scale, Form L-M.
2. Language development as measured by the Illinois Test of Psycholinguistic Abilities, experimental edition, 1961.
3. Vocabulary comprehension as measured by the Peabody Picture Vocabulary Test.

In addition, the Frostig Developmental Test of Visual Perception and the Metropolitan Readiness Tests were administered at the time of the second and third batteries.

### RESULTS AT THE END OF THE PRESCHOOL YEAR

The two highly structured programs (Ameliorative and Direct Verbal) demonstrated a substantial mean gain (13 points) in intellectual functioning (Binet IQ). No child in either program failed to make an IQ gain. On test two 92% of the children in the Ameliorative group and 74% of the children in the Direct Verbal group fell in the high intelligence strata. The other three groups made more modest mean gains (5 to 8 points) and from 15 to 24% of these children regressed. Clearly, the test-two performance of the Ameliorative and Direct Verbal groups on the Stanford-Binet was superior to the performances of the other three groups. Although the Traditional group was not significantly lower than the Ameliorative or Direct Verbal group, neither was it significantly higher than the Community-Integrated or Montessori group.

On the initial assessment of language development (ITPA) the children in this study were most deficit on the three subtests related to verbal expressive abilities: Vocal Encoding, Auditory-Vocal Automatic, and Auditory-Vocal Association. The Ameliorative group eliminated a major initial deficiency on each of these three



subtests, and the Direct Verbal group eliminated a major deficiency on two of these three subtests. The Traditional group did relatively well in this area. The performances of the Community-Integrated and Montessori groups on these three subtests were static at best, and their substantial deficits remained at the time of test two. On the ITPA total the Ameliorative group was significantly higher than the Community-Integrated and Montessori groups but did not differ significantly from the Direct Verbal and Traditional groups. The Direct Verbal and Traditional groups were significantly higher than the Montessori group only.

The magnitude of the gains of the Ameliorative group on the nine subtests of the ITPA and the consistency with which it made these gains resulted in an essentially nondeficit test-two performance. The Traditional group made consistent but more modest gains and had no major deficits (deficits in excess of 6 months) at the time of test two. The Direct Verbal group made somewhat larger gains than the Traditional group but made these gains somewhat less consistently and had major deficits on two subtests at test two. The Community-Integrated and Montessori groups generally made smaller and less consistent gains than the other three groups. The movement of the Montessori group was somewhat regressive while that of the Community-Integrated group was more nearly static.

There were no significant differences among the five groups in vocabulary comprehension as measured by the Peabody Picture Vocabulary Test. The performance of the Ameliorative group in visual perception (Frostig) was significantly higher than those of the other four groups. On test two, over 75% of the children in the Traditional, Montessori, and Community-Integrated groups earned scores indicating a need for remediation; in the Direct Verbal group 43% of the children earned such scores. Only 21% of the children in the Ameliorative group scored at this low level. An assessment of school readiness (Metropolitan) indicated the statistical superiority of the Ameliorative and Direct Verbal groups in number readiness only.

#### CONCLUSIONS AT THE END OF THE PRESCHOOL YEAR

Since the five intervention programs were chosen to represent points along a continuum of structure, one might assume that the results would order themselves along this continuum to the extent that structure is a valid dimension in effecting change. Such was not the case. The children in the Ameliorative and Direct Verbal programs (high on the structure continuum) generally showed the greatest gains. Those who participated in the Traditional program (low on the structure continuum) showed more modest gains. Children in the Community-Integrated program (also low on the structure continuum) and those who participated in the Montessori

program (midway on the structure continuum) showed the least progress.

The failure of the Montessori children to demonstrate appreciable progress seems to invalidate the notion that the level of structure relates to the progress made by the disadvantaged child. The Montessori program provided a high degree of structure in terms of careful planning for the kinds of motor-sensory activity appropriate to the development of an adequate base from which language and cognitive skills arise, and these provisions may be considered comparable to the activities used to elicit verbal responses (the game format) in the Ameliorative program or to the pattern drill employed in the Direct Verbal program. The Montessori teacher provided a "prepared environment" but did not systematically engage the child in verbalizations or require such verbalizations as part of the definition of productive involvement. This failure of the Montessori program resulted, at least during the intervention interval, in somewhat regressive language behavior. Structured emphasis on motor-sensory development without similar concern for verbal development programmatically moves in the wrong direction for the disadvantaged child.

The expectation that children in the Community-Integrated group would show progress equal to or greater than that of the children in the Traditional group was not substantiated. The disadvantaged children in the Community-Integrated program failed to incorporate the language model of their advantaged peers because they did not reciprocate in verbal interactions at any significant level. The homogeneity of the Traditional group, on the other hand, required these children to respond verbally during certain activities. Their teachers necessarily accommodated these activities to the verbal level of the children and gradually developed more acceptable and extended responses. The progress in verbal expressive ability made by the children in the Traditional program reflects this accommodation.

The very real progress made by the children in the Traditional program must be viewed against the generally superior performance of the children in the two highly structured programs. The effectiveness of directly teaching specific content was illustrated by the superior performance of the Ameliorative and Direct Verbal groups on the number readiness test of the Metropolitan. The magnitude and consistency of their gains in intellectual functioning (Binet IQ) clearly endorse the importance of providing a setting in which the child is required to make appropriate and increasingly complex verbalizations. There is some evidence that obtaining these verbalizations in conjunction with productive, manipulative experiences (Ameliorative program) more effectively developed visual perceptual skills (Frostig) as well as the visual-motor skills involved in certain ITPA subtests (Visual Decoding, Visual-Motor Sequencing, and Motor Encoding). In addition, children who

made verbal responses concurrent with meaningful, manipulative experiences more effectively incorporated syntactical constructs into their verbal repertoire (Auditory-Vocal Automatic subtest). On the other hand, verbal pattern drills (Direct Verbal program) provided unique opportunities to develop the auditory reception of structured aspects of language (Auditory-Vocal Association and Auditory Decoding subtests).

## THE SECOND YEAR OF THE STUDY

### Interventions during the Kindergarten Year

During their second year in the study the children in the Traditional, Community-Integrated, Montessori, and Ameliorative programs attended public kindergarten for a half day where no research intervention was made. The children in the Ameliorative program attended public kindergarten in the morning and, in addition, participated in a one-hour supportive program at the research center in the afternoon. According to the research design, children in the Direct Verbal program were not to attend public kindergarten and were to return to the research center for a half-day program.

The children in the Ameliorative supportive program were divided into two classes of twelve children each. The one-hour session consisted of two periods--language development/reading readiness and mathematics concepts. An effort was made to avoid repeating activities which had already been provided in the morning public kindergarten and to emphasize activities directly related to first-grade academic success. Because the test-two performance of the Ameliorative group on all ITPA subtests had been essentially nondeficit, the major orientation of the supportive program was toward school readiness rather than language development. Since these children had demonstrated competence in visual perceptual skills (Frostig) and a mean Binet IQ substantially above 100 (only two children scored below 100) and because they were approaching an age appropriate to more specific academic endeavors, this shift in program emphasis seemed reasonable.

The Direct Verbal program in the second year of the study offered an extension of the first year's curriculum, and the children were again grouped by ability for 25-minute instructional periods in reading, arithmetic, and language. The language program included concepts of measure, the formal use of function words, and the vocabulary engendered by a study of part-whole relationships of over 100 objects. The Direct Verbal staff developed a highly systematized reading method which emphasized sub-skills such as blending, rhyming, visual discrimination, left-to-right orientation, and sequencing. The children were taught to recognize symbols as sounds and to combine these sounds, using the sub-skills, into

words. In arithmetic the children received further work in the curriculum initiated the first year, and no significant alterations were made.

#### RESULTS AT THE END OF THE KINDERGARTEN YEAR

At the end of the second year of intervention, statistical comparisons were made between data from batteries one and three, and only inferences can be drawn between data from batteries two and three. Clearly the performance of the Direct Verbal group in intellectual functioning (Binet IQ) was superior to that of the other four groups. Only the children in the Direct Verbal group made a substantial gain during the second year (6 points). The four groups that attended public kindergarten the second year basically maintained the gains in intellectual functioning made during the first year, and losses or additional gains did not exceed 3 points. Although the supportive program for the Ameliorative group was unsuccessful in fostering further IQ gains, it may have been responsible for maintaining the relatively large gain of this group.

On the initial language development assessment (ITPA) these children were most deficit on three subtests requiring verbal expressive abilities: Vocal Encoding, Auditory-Vocal Automatic, and Auditory-Vocal Association. Of the three groups who attended only public kindergarten the second year, the Community-Integrated group demonstrated the least change on these three subtests. The Traditional group, although they had shown relatively good progress on these three subtests during the preschool year, tended to regress during the kindergarten year. The Montessori group, on the other hand, which had demonstrated a regressive pattern the first year, made substantial gains during the kindergarten year. The regressive performance during the second year of the fourth group who attended public kindergarten (Ameliorative) is particularly distressing since these children also attended the one-hour supportive program. The Direct Verbal group was the only group that showed continued and appreciable progress over the two-year period and was at or above its chronological age on the three subtests related to verbal expressive abilities. These results, together with the results on intellectual functioning, may be an indictment of public school programming for disadvantaged children but are clearly an endorsement of continued special programming.

On the ITPA total the performance of the Direct Verbal group was significantly higher than those of the other four groups. Differences between test-one and -three performances for these four groups were negligible, and only the Direct Verbal group showed a substantial gain (7 months). Over the two-year period the Direct Verbal group consistently made gains which resulted in a nondeficit test-three performance on all ITPA subtests. The Ameliorative

group made no appreciable regressions but its gains were more modest. On five subtests the Ameliorative group was above its chronological age at test three, but four major deficits (6 to 12 months) remained. The gains of the Traditional group were not of sufficient magnitude to result in any test-three performance above chronological age, and three of its deficits were of major proportions. The performance of the Montessori group was somewhat more erratic than that of the Traditional group; major deficits remained on three subtests, but on three subtests the Montessori group scored above its chronological age. At test three the Community-Integrated group had major deficits on eight subtests, two of which exceeded twelve months.

At the time of test three the Traditional group was significantly lower than the other four groups on the test of visual perception (Frostig). The Traditional group made no progress during the second year while the Montessori and Community-Integrated groups made substantial growth in this area during their year in public kindergarten. The Ameliorative group, which had been significantly superior at test two, showed modest but continued growth. The mean of the Direct Verbal group which had ranked second at test two now closely approximated that of the Ameliorative group. Children in the public kindergarten did indeed make gains in this area; however, the groups which participated in the structured academically-oriented programs had a considerably smaller percentage of children prone to reading failure, to the extent that reading failures are related to visual perceptual inadequacies.

On the assessment of school readiness (Metropolitan) the reading readiness performance of the Ameliorative group was significantly higher than those of the other four groups. This result is rather surprising in view of the Direct Verbal group's superiority in intellectual functioning (Binet) and language development (ITPA). The failure of the Direct Verbal group to achieve a performance superior to those of the other groups, especially the three groups who attended public kindergarten only, is puzzling since its curriculum included an intensive two-year reading program. A major intent of the Ameliorative supportive program had been to prepare children for formal reading instruction, and this focus appropriately developed reading readiness skills as measured by the Metropolitan. Thirty-eight percent of the children in the Ameliorative program achieved a superior reading readiness status, and 67% of the children in this group were rated high normal and above. No child in the other four programs earned a superior rating, and from 15 to 31% of the children in these groups were in the high normal range. Nearly equal percentages of the children in these four groups fell in the high, average, and low ranges. The favorable reading prediction for the large number of children in the Ameliorative program is complemented by the few children who received low-normal ratings, less than one-fourth the percentage of any other group.

On the Metropolitan Number Readiness Test the Ameliorative and Direct Verbal groups were significantly higher at test three than the other groups. A substantially higher percentage of the children in the Ameliorative group (83%) achieved a superior number readiness status; however, the percentages of children in the Ameliorative and Direct Verbal groups who were rated high normal and above (91%) were identical and higher than those of the other three groups (43 to 64%). Apparently disadvantaged children of preschool and kindergarten age profit from academically-oriented instruction in mathematics, and both programs seemed appropriate and effective with these children.

The children who participated in the Traditional, Community-Integrated, and Montessori programs the first year and who attended only the public kindergarten the second year generally demonstrated the least progress on the total battery. The performance of the Traditional group at the end of the first year more nearly approximated those of the two structured groups than those of the Community-Integrated and Montessori groups which changed little during the preschool intervention. The regression of the Traditional group and the modest progress of the Montessori group during the second year (the kindergarten year) resulted in similar test-three performances. The Community-Integrated group regressed substantially in important areas during the second year. The children in the Ameliorative group made progress equal or superior to that of the Direct Verbal group during the first year but regressed substantially in critical areas the second year. The one-hour supportive program was successful in fostering further development of school readiness (Metropolitan) and visual perception (Frostig). Only the Direct Verbal group made consistent and continued progress in all areas over the two-year period.

#### CONCLUSIONS AT THE END OF THE KINDERGARTEN YEAR

Only at the end of the first year of the study can differential results be directly attributed to the specifics of preschool intervention, since only then were the five programs comparable in terms of class unit composition, teacher-pupil ratio, and time. The second year of this study introduces new variables and cannot be viewed merely as a follow-up of the five preschool programs. For those interested in preschool programming for disadvantaged children, the data obtained at the end of the preschool year must remain of primary relevance.

It seems clear that one year of preschool programming, no matter how immediately effective, did not equip disadvantaged children to maintain performance in the kindergarten setting. Regardless of the progress made in preschool by the four groups of children which attended public kindergarten, their relative performances deteriorated during the second year, and the

efficacy of kindergarten programming for disadvantaged children seems open to question. Since one of the principal findings of the first year was that intensive teacher-child interaction is critical to maximum language development and since this kind of interaction cannot occur with the teaching ratio of the public kindergarten, the deterioration in language development is not surprising. Only children in the Direct Verbal program, which maintained a low pupil-teacher ratio and intensive pupil-teacher interaction the second year, made continuing progress in language development.

During the first year of the study, Ameliorative programming was appropriate and highly effective, and children made remarkable progress in all areas, particularly those of initial inadequacy. This encouraging educational prognosis contributed to a shift in emphasis from language development to school readiness in the one-hour supportive program. The marked regression in verbal expressive abilities experienced by these children during the kindergarten year suggests that this shift in emphasis was ill advised or at least premature. The additional one-hour supportive program did indeed promote superior academic readiness but failed to maintain the level of language functioning achieved in the Ameliorative preschool.

Only children who attended the Direct Verbal preschool were provided low pupil-teacher ratios and intensive language programming over the two-year period, and only these children made continued growth in all aspects of the test battery. The second year IQ gain is particularly encouraging as are the remarkable two-year gains in verbal expressive abilities made by children in this group. Only in the area of reading readiness did these children fail to achieve the superior performance, and this study offers no direct evidence to support the early introduction of reading instruction to disadvantaged children.

**SUMMARY II. A Follow-Up of Three of the Five Preschool Interventions: Evaluations over Three Years**

Because all interventions were not initiated during the first year of the study, data at the end of first grade are not available for the Montessori and Community-Integrated groups or for the second Direct Verbal class unit. Follow-up data are, however, available for the Traditional group (N=25), the Ameliorative group (N=24), and the first class unit of the Direct Verbal group (N=10). The available N for the Direct Verbal group, therefore, is reduced from 23 to 10, and conclusions based on data obtained during the third year for this group must be tentative. Since the implications of the first two years were discussed in the preceding report, the major intent of this study will be to evaluate the status of the three groups at the completion of first grade.

Evaluations were made in the following areas prior to the intervention, at the end of the preschool year, at the end of the kindergarten year, and at the end of first grade:

1. Intellectual functioning as measured by the 1960 Stanford-Binet Individual Intelligence Scale, Form L-M.
2. Language development as measured by the Illinois Test of Psycholinguistic Abilities, experimental edition, 1961.
3. Visual perception as measured by the Frostig Developmental Test of Visual Perception.

In addition, the Peabody Picture Vocabulary Test was included in the first three batteries, the Metropolitan Readiness Tests were administered at the end of the preschool and kindergarten years, and the California Achievement Tests, Lower Primary Form W, were given at the end of the first grade.

The first intervention embodied the traditionalist point of view: a nursery school experience which worked in conventional ways to improve the personal, social, motor, and general language development of the children was followed by a traditional kindergarten under the auspices of the public school. The Direct Verbal program radically departed from the established view: The traditional preschool and kindergarten were seen as inadequate and inappropriate to the task of insuring the academic competencies of the disadvantaged child, and the experimental Direct Verbal preschool was provided for the two years prior to first grade. The Ameliorative program represented a middle ground: Amelioration of deficits related to school inadequacies began during the preschool year



so that the disadvantaged child might benefit fully from the traditional kindergarten. The public kindergarten with a one-hour supportive program, it was assumed, would then be an appropriate prelude to first grade. Children from the three intervention programs attended first-grade classes under the sole supervision of the public schools, and all children were given the fourth battery of tests in the late spring of the third year of the study.

## RESULTS AT THE END OF FIRST GRADE

### School Achievement

Although important interim evaluations were made at the end of the preschool and kindergarten years, school achievement at the end of first grade was understood to be a critical criterion in assessing program effectiveness. The reading achievement of the Ameliorative and Direct Verbal groups as measured by the California Achievement Tests was significantly higher than that of the Traditional group. Two years of reading instruction in the Direct Verbal program prior to first grade seem to have been only as effective as the extensive readiness preparation in the Ameliorative program in producing accelerated reading development. This study provides little evidence to support the introduction of early reading programs for disadvantaged children.

The California language test assessed capitalization, punctuation, word usage, and spelling skills and bears little relation to language development as it is discussed elsewhere in this report. The performance of the Ameliorative group was significantly higher on this language test than that of the Traditional group. The performance of the Direct Verbal group approximated that of the Ameliorative group but failed to achieve significance. Since the skills required for successful performance on this test were not taught at the preschool or kindergarten levels (with the exception of limited spelling instruction for Direct Verbal children), the differential nature of this performance may reflect the superiority of the Ameliorative and Direct Verbal groups in general school readiness as evidenced on the Metropolitan Readiness Tests at the end of the kindergarten year.

The results of the Metropolitan Number Readiness Test at the end of the kindergarten year indicated that the two structured groups were better prepared for the more formal work of first-grade mathematics. The Ameliorative and Direct Verbal groups were significantly higher than the Traditional group on the California arithmetic test at the end of the first grade, confirming this prediction.

### Intellectual Functioning

The Binet performances of the three groups were clearly differentiated over the three-year period. The performance of the Ameliorative and Direct Verbal groups was significantly superior to that of the Traditional group at the end of the pre-school year. At the end of the kindergarten year, the Binet performance of the Direct Verbal group was significantly superior to that of the other two groups. (The Ameliorative group was very nearly significantly higher than the Traditional group.) At the end of the third year of the study, when all children were completing the first grade, there were no significant differences among the three groups. The modest preschool gain (8 points) of the Traditional group remained relatively stable during the following two years (5 points at the end of the first grade). Although the one-hour supportive program was unsuccessful in fostering a further gain for the Ameliorative group, it may have been responsible for maintaining the relatively large preschool gain (14 points). The Ameliorative group did, however, lose 6 points of this gain during the kindergarten and first-grade years. Only the Direct Verbal group received sustained special programming during the preschool and kindergarten years, and only the Direct Verbal group made large and continuing gains (13 and 10 points) during the first two years of the study. When special programming terminated and these children entered the first grade of the public schools, they experienced a sizeable loss (11 points).

### Language Development

Initial ITPA total language age deficits for the three groups were four to five months. At the end of the preschool year, the groups were performing very nearly at their respective chronological ages. The Traditional group maintained a small deficit, and the Direct Verbal group achieved a modest acceleration. The Ameliorative group made the largest gain and was functioning nearly three months above its mean chronological age. During the second year of the study, only the Direct Verbal group made continued gains, and its ITPA total performance was significantly higher than those of the Ameliorative and the Traditional groups. The losses of the Ameliorative group during the kindergarten year resulted in a test-three performance two months below its chronological age while the losses of the Traditional group resulted in a test-three deficit which very nearly equaled its initial deficit. There were no statistical differences among the ITPA total performances of the three groups at the end of the third year of the study. All groups regressed during the first-grade year. The extent of the losses of the Traditional and Ameliorative groups during the kindergarten and first-grade years exceeded the gains they had made in the pre-school year. Although the Direct Verbal group was performing at its chronological age, the loss experienced by this group during the first grade exceeded its gain of the kindergarten year and does not support an encouraging language prognosis.

### Visual Perception

At the end of the preschool year, the performance of the Ameliorative group on the Frostig Developmental Test of Visual Perception was significantly higher than that of the Traditional group only. During the kindergarten year, the Ameliorative and Direct Verbal groups made continuing progress and were significantly higher than the Traditional group which regressed slightly. All groups made progress during the first-grade year; however, the Traditional group made a substantial gain and there were no longer significant differences among the groups. Initially, nearly all of the children fell in the lowest quartile on this instrument. At the end of the first grade, only 8% of the children in the Ameliorative group scored in the lowest quartile while 20% of the Direct Verbal children and 48% of the Traditional children earned such scores.

### CONCLUSIONS AT THE END OF FIRST GRADE

No intervention program was entirely successful in providing the impetus necessary to sustain at the end of first grade the gains in intellectual functioning and language development made during the preschool years. In spite of the disappointments of some of the longitudinal data, however, a major accomplishment of this study remains: Serious learning deficits of the disadvantaged children in the Ameliorative and Direct Verbal groups were eliminated during the preschool year. In the Direct Verbal program, where an extensive intervention was sustained over a two-year period, continued growth occurred. The deterioration in language and intellectual functioning which occurred at the termination of intensive programming demonstrates the need for continued intervention characterized by low pupil-teacher ratios which make possible the interaction necessary for language development and which provide the opportunity to design and implement learning experiences to achieve specific goals.

Although these three short-term interventions (even a two-year classroom intervention is essentially a short-term effort) did not differentially alter intellectual functioning in any permanent fashion, two aspects of the Binet data have important implications. The sizeable gain of the low strata children in the Ameliorative group remained stable, most pertinently, during first grade when no research intervention was provided. It seems justifiable to conclude that the Ameliorative program offered particular opportunities to develop the intellectual functioning of low-normal and slow-learning children. The small number in each stratum of the Direct Verbal group preclude discussion of gains by strata. The IQ losses experienced by the high strata children in both the Traditional and Ameliorative groups during the first grade are of real concern and resulted in an IQ change

in a negative direction over the three-year period. The modest gain of the Traditional high stratum and the substantial gain of the Ameliorative high stratum during the preschool year remained constant through the kindergarten year but were lost during the first grade. It seems reasonable to assume that in important ways the public schools during first grade failed disadvantaged children with demonstrated potential. This assumption is further supported by the substantial regression during first grade of 24 of the 26 children from the three intervention groups who had scored 110 and above at the end of kindergarten.

Since the intent of preschool intervention for disadvantaged children is to alter in positive ways later school performance, both structured programs must be judged successful. Virtually all of the children in the two structured programs were making at least adequate academic progress. In spite of two years of traditional preschool programming, nearly half of the children in the Traditional group obtained California scores which indicated sharply limited school achievement. This differential achievement level demonstrates the potential for school success among disadvantaged children which can be developed through structured preschool experiences. Functioning effectively in the public school setting is a critical first step in altering the life circumstances of the disadvantaged child to the end that he may participate more fully in the educational and economic opportunities of a democratic culture.

**SUMMARY III. Earlier Intervention: Effects of the Ameliorative Program Initiated with Three-Year-Old Children and Maintained for Two Years**

This study was concerned with the effects of the Ameliorative program initiated with three-year-old disadvantaged children and maintained over a two-year period. The progress of the three-year-old children after one year in the Ameliorative program was compared to that of the four-year-old children who had been enrolled in the previous Ameliorative program. At the end of the second year of the study, the progress of the children who participated in the Ameliorative program for two years (as three-year-olds and as four-year-olds) was again compared to that of the children who had participated in the Ameliorative program for only one year (as four-year-olds).

Recruitment procedures were the same as those employed in the earlier studies, except that the children were three years old before the first of December, an age appropriate for enrollment in the public kindergarten in two years. Race and sex ratios and the three intelligence strata class design were maintained.

Since the Ameliorative program had been developed as a one-year intervention for four-year-old children, a number of accommodations were necessary to use this program with three-year-olds over a two-year period. During the first year, material was presented at a slower rate and concepts were introduced at their simplest levels. During the second year, units of work not taught the first year were covered and new units were added, particularly in the social studies-science curriculum. Units which had been taught at a minimal level the first year were expanded the second year beyond the level reached by other Ameliorative classes for four-year-olds. The teacher-pupil ratio (1:5) and the daily schedule of the previous Ameliorative program were maintained over the two years.

**RESULTS**

There was no significant difference between the progress made by the three-year-old children during one year in the Ameliorative program and that made by four-year-old children in one year on any component of the test battery (Binet, Peabody, Frostig, and ITPA total).

The progress made in two years by children who began the Ameliorative program at the age of three was not superior to that

made in one year by children who began the program at the age of four on any instrument in the test battery. Doubling the length of intervention with apparently appropriate program accommodations had no appreciable impact.

The results at the end of the first year of the study generally endorsed the earlier initiation of the Ameliorative program. The first-year gains of the younger group essentially matched the remarkable gains made previously by the four-year-old children in the Ameliorative program. This acceleration did not continue during the second year. Maintaining an essentially nondeficit performance may in itself represent a major achievement, particularly in view of the tendency of disadvantaged children in this and other projects to fail to maintain very promising first-year gains. The accelerated rate of growth achieved during the first year and the demonstrated stability of these gains the second year suggest an optimistic school prognosis for these children.

**SUMMARY IV. The Effects of Short-Term Instruction at Home by Mothers of Children not Enrolled in a Preschool**

This study was designed to evaluate the effects of short-term at-home instruction by mothers on the intellectual and language development of their children. Neither experimental nor control children were enrolled in a preschool, and only the mothers of the experimental children were enrolled in a training program designed to help them make instructional materials to use in teaching their children at home. It was hypothesized that preschool children of mothers in the training program would demonstrate gains in intellectual functioning and language development significantly greater than those shown by children whose mothers were not involved in a training program. Instruments used for pre- and post-evaluation were the Stanford-Binet Individual Intelligence Scale (1960 edition) and the Illinois Test of Psycholinguistic Abilities (experimental edition, 1961).

METHOD

Subjects

Subjects were selected from Negro families in an economically depressed area who had been referred by the principal of the neighborhood elementary school. Children were to be four years old before December first, and attendance at a preschool disqualified a child. A control and an experimental group (N=15) were established with comparable mean intelligence quotients and sex ratios.

Intervention

The mothers of the experimental children attended eleven weekly two-hour meetings conducted by three preschool teachers at the neighborhood elementary school. Each teacher worked closely with a group of five mothers. As part of the project staff, mothers were paid \$3.00 a session but received no remuneration for the time spent working with their children at home. At the beginning of each session the mothers made educational materials to use during the following week in teaching their children at home. Inexpensive materials or items commonly found in the home were incorporated into these activities. The teachers taught the mothers songs and finger plays and distributed copies as a teaching aid at home. Books and puzzles were available on a lending-library basis. Language development was the major emphasis of all activities which were designed to teach the child to label objects in his immediate

environment, to make more precise verbal observations, to generalize, to use grammatically correct forms, to understand and to ask questions, and to formulate answers.

When a mother was absent, the other mothers made the materials for her and the teacher delivered these and the instructions for their use to the home the following week. In addition, the teacher visited each home at two-week intervals to become acquainted with the child, to demonstrate teaching techniques, to evaluate the appropriateness of the activities by observing mother and child at work, and to assess the extent to which mothers were working with their children.

## RESULTS

### Intellectual Functioning

The results of the study confirm the hypothesis that the experimental subjects would evidence gains in intellectual functioning (Stanford-Binet) significantly greater than those made by the control subjects. The mean gain of the experimental group was 7 points, while the control group made no gain.

### Language Development

It had been hypothesized that the experimental subjects would make gains in language development (ITPA) significantly greater than those of the control subjects. The results do not clearly confirm this hypothesis. There were no significant differences in favor of the experimental group in gains on any subtest; however, on three subtests and the ITPA total there was a trend (.10) in their favor. On eight of the nine subtests the gains of the experimental group were at least twice the program interval of approximately three months. The control group achieved this level of gain on only three subtests.

## DISCUSSION

This intervention, teaching mothers to make educational activities from low-cost materials to use in teaching their children at home, was not determined by budgetary requirements; rather, it was chosen as a means of insuring the mother's active participation in the meeting and her effective teaching at home. The practical nature of this program in terms of facilities, personnel, and budget does, however, increase its potential for reaching large numbers of children. The results of this study, particularly in view of its short-term nature, seem to be a clear demonstration that mothers can be effectively involved in direct educational intervention with their preschool children at home.



## SUMMARY V. The Impact of At-Home Instruction by Mothers on Performance in the Ameliorative Preschool

Because of the encouraging results obtained in the short-term study of the effects of at-home instruction by mothers (Summary IV) and to develop a more positive relationship between home and preschool, the mother-involvement program was incorporated into the operation of the Ameliorative preschool. It was expected that children whose mothers worked with them at home in areas related to those taught at the preschool would make additional progress. The evaluation, therefore, involved a comparison of the progress of children taught by their mothers at home and by teachers at the preschool with that of the earlier group of children who had received instruction only in the preschool. The specific intent of this study was to determine areas in which instruction by mothers influenced performance.

### METHOD

The Ameliorative program provided all children in this study has been described previously (Summary I), and the mother-involvement program was patterned after the earlier, short-term study (Summary IV). An additional dimension to the mother-involvement meetings, primarily made possible by the extended length of the program (from twelve weeks to seven months), was an emphasis on broader community interactions.

Recruitment procedures were the same as those employed in the earlier studies. Race and sex ratios and the three intelligence strata were maintained for the Ameliorative classes which incorporated the mother-involvement program.

### RESULTS

The post-intervention performance of the Ameliorative group with mother involvement was nearly identical to that of the Ameliorative group with no mother involvement on the Binet, Frostig, and Metropolitan Readiness tests. On four ITPA subtests, two of them in the critical area of verbal expressive abilities, significantly higher scores were achieved by the children whose mothers were not involved in the program. In no way did the results of the test battery confirm the expectations of the study.

## DISCUSSION

Any explanation of these results must necessarily be speculative. Since this study combined a mother-involvement program with a preschool program, it seems logical to question whether either component was altered when the two were combined. There is little basis to assume that the subsequent Ameliorative program was less effective than the original, and, in fact, project staff generally agreed that the later program was superior in terms of curriculum organization and availability of materials. The mother-involvement program, however, necessarily required expansion and specific accommodations since the children now received instruction at school as well as at home. In retrospect, changes which seemed relatively minor, coupled with the child's preschool attendance, may have significantly altered the mother's perception of her role in this program. In the short-term study, the mother was aware that she was the only active agent for change in her child. In the longer study, mothers appreciated the value of the activities for their children but may have over-emphasized the role of the preschool in achieving the goals of the program.

In spite of the statistical results, project teachers continue to be enthusiastic about mother involvement in conjunction with preschool and feel that their observations of the children in the classroom support this view. Teachers believed that a meaningful home-school relationship had developed over the seven months, and there was evidence that some mothers generalized from this preschool experience to the public school and wider community levels.

## **SUMMARY VI. Implementing the Ameliorative Program with Paraprofessional Staff**

It was the intent of this study to determine whether a paraprofessional teaching staff indigenous to the poverty area could, through sustained inservice training and daily supervision, implement the highly specific instructional program developed in the Ameliorative preschool. Four class units participated in this study. The first two were taught by professional staff and are described as the Ameliorative intervention in Summary I. The third class unit was staffed by three, young, Negro mothers who had no previous teaching experience and no formal education beyond high school. The fourth was taught by sixteen- and seventeen-year-old girls enrolled in a high school work-study program. In addition, a qualified preschool teacher served as the paraprofessional trainer in each of the latter two units.

### **METHOD**

#### **Selection of Subjects**

Procedures to recruit children for the class unit taught by the adult paraprofessional staff were the same as those employed in the earlier preschool studies. Race and sex ratios and the three intelligence strata were again maintained. Recruitment procedures for the class unit taught by the teenage paraprofessional staff only approximated those used in the earlier studies because this program was operated at a community nursery school in a target area housing project.

#### **Intervention**

The length of intervention, the daily schedule, the teacher-pupil ratios, and other aspects of classroom mechanics in the two class units taught by paraprofessionals were patterned after those of the Ameliorative preschool (Summary I). A major effort was made to insure that the teaching strategy employed by the paraprofessionals and the curricular units they implemented followed those of the earlier study which provided the basis for comparison. To fulfill this intent, a procedure was developed whereby a professional teacher provided inservice training for the three paraprofessional teachers under her direction. The supervisory teacher assumed full responsibility for the long-range educational goals of the program and for the specific instructional plans and was present in the classroom each day to assess the appropriateness of

her plans for the children as well as the effectiveness of her paraprofessional staff in executing these plans. She did not, however, assume the role of classroom teacher herself.

### Evaluation Procedure

To evaluate the effectiveness of paraprofessional staff in implementing a highly specific preschool instructional program the performance on a standardized battery of tests (Binet, ITPA, Frostig, Metropolitan) of children taught by paraprofessionals was compared to that of children taught by professional staff implementing the same instructional program.

### RESULTS

The staff variables explored in this study (professional, adult paraprofessional, and teenage paraprofessional) did not produce significantly differential performances on any component of the evaluation battery. Particularly on the assessment of general school readiness (Metropolitan) and visual perception (Frostig) were the similarities among performances striking. Only minor qualifications need be made: (1) There is some evidence that children instructed in the Ameliorative curriculum by paraprofessionals did not achieve large IQ gains as consistently as did the children taught by professionals. (2) IQ gains by intelligence strata in classes taught by paraprofessional staff were not as uniform as those in classes taught by professional teachers. (3) Relatively poor performances on the Motor Encoding subtest of the Illinois Test of Psycholinguistic Abilities and on the three subtests related to verbal expressive abilities were demonstrated by children taught by paraprofessionals. Generally, however, the results of this study clearly endorse the feasibility of alleviating preschool staffing problems through employing paraprofessional teachers who receive sustained inservice training and daily supervision. The paraprofessionals, adult and teenage, who participated in this study did indeed demonstrate the ability to implement the highly specific instructional program developed in the Ameliorative preschool as effectively as professionally trained teachers.

### CONSIDERATIONS INVOLVED IN PARAPROFESSIONAL STAFFING

Although the analysis of the evaluation battery did not reveal significant differences between the group taught by the adult paraprofessionals and the group instructed by teenagers, the supervisory teachers in written evaluations of their respective staffs described conspicuous and pertinent variables. The performances of the adult paraprofessionals in all aspects of

these evaluations were rated superior to those of the teenage teachers. Although the paraprofessionals at both age levels lacked teaching experience and knowledge concerning the goals of a preschool, the teenagers failed to acquire the genuine sense of commitment to the program which the adult paraprofessionals (all mothers themselves) developed almost immediately. The teenagers exhibited rather chronic absenteeism which was never demonstrated by the adult paraprofessionals and personnel turnover was high among this younger staff. The teenagers tended to be somewhat defensive about suggestions which seemed in anyway critical of their work. They often saw the supervisor as an authority figure with whom they did not identify and toward whom they felt somewhat rebellious. The adult paraprofessionals, on the other hand, viewed their supervisor as "part of the team" and were eager to extend their responsibilities within the classroom. The supervisory teacher of the teenage staff felt that although these young teachers acquired many of the skills necessary to present curriculum materials to young children and to handle discipline problems in a constructive manner, their growth as teachers was limited because they did not adequately develop the ability to evaluate objectively the progress made by the children within their instructional groups. The young mothers found less difficulty in observing and evaluating child behavior and became rather ardent and articulate promoters of the preschool program. The teenagers saw little relevance in this work experience for their occupational future while the paraprofessional adults sensed the relevancy of this experience to their roles at home and in the community and considered such training pertinent to future employment goals. There seemed little question that in terms of transfer to the field the inservice training of adult paraprofessionals indigenous to the poverty area as teachers of disadvantaged children was a more feasible tactic than was a similar program for teenage girls.

**SUMMARY VII. The Effects of the Ameliorative Program with a Class of Low IQ Children**

The intelligence strata design used in the other studies in this research project resulted in a mean IQ for each class unit higher than the mean IQ of the population screened, and recruitment each year resulted in a surplus of low strata subjects. In the third year of the project, the fifteen four-year-old children for whom there were no vacancies in low strata or who fell below the cut-off of 70 were placed in a single class. Classroom mechanics, teaching strategy, and curricula were essentially the same as those provided other Ameliorative classes (Summary I). The basic intent of the research was to evaluate the effectiveness of the Ameliorative program with this atypical group rather than to devise a new intervention program.

Since no control group was available to compare with this atypical class and since the other research class units could not be used for direct statistical comparison, the evaluation of this group relies only on a consideration of gains. The Binet IQ gain (21 points) of the low IQ children was statistically significant at the .001 level. No child made a gain of less than five IQ points and 80% of the children made gains of 15 or more points.

Assessment of the language development which occurred during this program is extremely difficult since many low IQ children were initially unable to perform on ITPA subtests. Since the initial level of deficit could not be assessed with accuracy, statistical tests of gains were inappropriate. To some extent, the positive impact of the program can be seen in the increased number of children scoring within the subtest norms. At test one, essentially none of the fifteen children were able to perform on four subtests; on two additional subtests, nine children were below the norms. At test two, with the exception of the Auditory-Vocal Automatic subtest, virtually all of the children fell within the normative range of this instrument.

The discouraging school prognosis at test two (a mean Binet IQ in the slow-learner range and substantial deficits on all ITPA subtests) does not invalidate the very real progress made by the low IQ children in the Ameliorative program. During the 9-month program interval their mean Binet mental age increased 19 months and their ITPA total language age, 12 months -- remarkable progress for a group of children whose initial mean IQ was 66. Clearly, a one-year intervention at this age for this population is not adequate, and earlier and sustained intervention may well be required to effect the level of change necessary for successful school performance for a substantial number of these children.

## SUMMARY VIII. The Effects of Early Education with Disadvantaged Infants

The purpose of this study was to determine whether intellectual functioning can be stimulated more effectively at a very young age than at the age of four. Thirty younger siblings (between the ages of 8 months and 2 years) were selected from the group of four-year-old disadvantaged children who had been admitted to preschool classes in the earlier stages of the larger research project. Fifteen experimental children received one hour of training a day in their homes for one year and were then admitted to a preschool of three-year-olds the second year. The experimental children were compared with the control children after the first year and again after the second year. In addition, the test scores of both the experimental and control groups were compared with the test scores of their older siblings when they had been admitted into the preschool at the age of four.

### METHOD

#### Tests Administered

Tests and evaluations were administered to the thirty infants before the experiment and at the end, as follows:

a) During pretesting: (1) The Cattell (1960) Infant Intelligence Scale, (2) Caldwell's (1966) Assessment of Home Stimulation, (3) The Fels Parent Behavior Rating Scales (Baldwin, Kalhorn, and Breese, 1949), (4) Fokes (1965a) Outline of Language Development, (5) An Instrument for Assessing Infant Psychological Development (Uzgiris and Hunt, 1966), (6) a pediatric examination, and (7) Fokes (1965b) Outline of Motor Development. These tests and evaluations were administered initially for the purpose of studying the children and aiding in organizing a tutorial program in the home.

b) Posttesting evaluations were made after one year of tutoring and after one year of preschool. Posttests reported in this study are (1) the Stanford-Binet, Revised Form L-M, and (2) The Illinois Test of Psycholinguistic Abilities (experimental edition). These tests were given only as posttests since the children were too young for these tests during the initial battery.

#### Development of Tutorial Program

Because the experimental subjects were found to be normal in motor development, the initial phase of the program, while

essentially sensory-motor, emphasized eight areas of cognitive development: (1) language, (2) symbolic representation, (3) space, (4) number, (5) classification, (6) time, (7) reasoning, and (8) imitation. After an exploratory period, tasks designed to promote learning in these areas were organized on the basis of a developmental sequence.

### The Second-Year Program

At the conclusion of one year's tutoring, the experimental children were placed in a half-day preschool for seven months. The program provided was similar to the first-year program described by Karnes in this report (Earlier Intervention: Effects of the Ameliorative Program Initiated with Three-Year-Old Children and Maintained for Two Years).

## RESULTS AND DISCUSSION

### Changes in Rate of Mental Development

The experimental and control children had IQ's of 98.9 and 99.2 respectively on the Cattell Scale of Intelligence at the beginning of the experiment, when their average age was 16.9 and 17.0 months respectively. The experimental group gained approximately 5 points in IQ during the year in which they had tutoring at home for one hour a day and an additional 11 points in IQ the second year when they were trained in the structured Ameliorative program. The Control group, on the other hand, lost 2 IQ points during the first year. The second year, while they were still at home, they gained 5 IQ points. (These comparisons must be made with caution. The first IQ mean was obtained on the Cattell test, whereas the second and third scores were obtained on the Stanford-Binet.) Although the 7 point IQ difference between the groups after one year of tutoring in the home was statistically significant, the question remains whether this difference has psychological significance. Ordinarily, spurts in IQ come during the initial stages of instruction with a plateau or only slight increase the second year. The results here are the reverse. The second year's instruction in a group effected a wider difference between groups than did the first year's tutorial program.

A second comparison involved the difference in intellectual functioning between the group of children who had early training and their older siblings who did not receive intervention before the age of four. There was a difference of 22.8 IQ points between the experimental children, who had intervention for 2 years between the ages of one and three and one-half, and their siblings, who were examined at age 4 and who did not have intervention. The control infants at age 3-6 who did not receive preschool intervention were 7.9 IQ points higher than their four-year-old siblings who also received no preschool intervention.



### Rate of Psycholinguistic Development

The Illinois Test of Psycholinguistic Abilities was administered at the end of the experiment to both groups of children and to their older siblings. Only the experimental group showed a positive standard score (+.45). The control group, with a standard score of -.73, was 1.18 standard scores below the experimental group, and the siblings at an older age had standard scores of -.87 and -.61. Although these data present some evidence on the effects of early training, they do not furnish us information on whether the gains were the result of the one-hour-a-day of tutoring during the first year, of the group experience in the preschool the second year, or of a combination of these two experiences.

### Discussion

The results of this study indicate quite clearly that for disadvantaged children preschool intervention at age three produces significant acceleration in mental development when compared with the development of disadvantaged children who did not receive such intervention. The results support the hypothesis that early intervention is beneficial. The major hypothesis of this study, however, was that tutoring in the home for infants between the ages of one and two years for one hour a day would prove more beneficial than initiating intervention at the age of four. The conclusion that such tutoring is warranted seems dubious in the light of the fact that the experimental group made greater increases in IQ when entering the Ameliorative preschool at the age of three than they did in the infant program. The hypothesis, then, that home training for one hour a day before the age of three is more beneficial than training at a later age appears to be negated. It should be pointed out, however, that this experiment does not exclude the possibility of obtaining marked improvement in children when intervention is initiated in the home at the age of one and two, if the intervention consists of a program that includes more than one hour of tutoring.

## SUMMARY IX. Training Mothers to Instruct Their Infants at Home

The infant tutorial program (Summary VIII) implemented in the larger research project required staff and budgetary commitments at impractical levels, and a more feasible tactic, based on the mother-involvement studies described earlier (Summaries IV, V, and VI), seemed to be the training of mothers to carry out an instructional program with their own infants at home.

### METHOD

#### Recruitment

Twenty mothers with infants between the ages of twelve and twenty-four months were recruited from the economically depressed neighborhoods of Champaign-Urbana, a community of 100,000 in central Illinois. During these initial contacts, the mother was asked if she were able to attend a two-hour class each week where she would be instructed in teaching techniques to use with her infant at home. She would be paid \$1.50 an hour to attend these meetings and transportation to and from the meetings would be provided. She was asked, further, to agree to apply these teaching techniques with her infant for a period of time each day. She would not be paid for this work-time at home, but the toys used to implement the instructional program would be given to her baby.

#### Background of the Subjects

After enrollment had stabilized, the group of twenty included eighteen Negro and two Caucasian mothers. Six mothers had been born in the North; the others had migrated from the South. The mean age of these mothers was 29.4 years; their educational level, 9.2 years; and they had a mean of 4.9 children. Public assistance through Aid to Dependent Children was the source of support for sixteen of the families included in this study. Six of the mothers were employed on a full-time basis. Five of the marriages of these twenty women were considered intact.

The mean chronological age of the twenty infants who participated in this study was nineteen months at the time of the initial intelligence test with a range of 14 to 26 months. Nine of these subjects were female, 11 were male; 18 were Negro and two were Caucasian. The initial mean Cattell IQ of this group was 97.6, and IQ scores ranged from 79 to 120.

## Intervention

To encourage discussion, the twenty mothers were divided into two groups of ten which met separately throughout the program. Two staff members conducted the weekly two-hour meetings over the seven-month period. In addition, they made monthly (more often when necessary) home visits to reinforce the teaching principles introduced at the meetings and to help each mother establish a positive working relationship with her baby. These visits also provided staff members an essential observation of the appropriateness of the infant curriculum as well as their success in communicating teaching strategies to the mothers. In general, the weekly meetings were divided between child- and mother-centered activities. The first category included the presentation of educational toys and materials with an appropriate teaching model. The mother-centered activities involved group discussion directed toward child-rearing problems in today's society but intended to foster a sense of responsibility in the mothers for themselves, their families, and the community in which they live.

## Evaluation Procedures

Interim data were to be collected and evaluated at the end of the first and second years of the study. When the children reached the age of four, postdata were to be collected and the study terminated. Three major comparisons were to be made: (1) A comparison at the end of each year of the study between the twenty children whose mothers had been trained to teach them at home and a comparable group of twenty children whose mothers had not been provided with this training (2) A comparison at the age of three years between the twenty children whose mothers had been trained to teach them at home and a group of middle-class children (3) A comparison between the twenty children whose mothers had been trained to teach them at home and the infants who were tutored by professional personnel (Summary VIII). Because of the termination of funding, this study continued only seven months and these longitudinal comparisons are not possible. Since a control could not be maintained, that interim comparison could not be made nor could the interim comparison with the infants tutored professionally, since the length of tutorial intervention doubled the intervention period of this study at its termination.

Initially all infants were administered the Cattell Infant Intelligence Scale and were to have received the Stanford-Binet Intelligence Scale at the end of the first year. At the termination of this study, eight infants were incapable of being tested with the Binet and were administered the Cattell. In the absence of a control and over so truncated an interval, these standardized tests offer little information appropriate to program evaluation. An attempt was made to provide an evaluation through a consideration of the data recorded by staff members during the monthly home visits and after each weekly meeting. Data was analyzed on

pertinent variables from three categories: mother participation, mother-child interaction, and child performance on nine program tasks.

## RESULTS

Mothers who worked full-time outside the home were not active program participants either at the meetings or within their own homes. The teaching relationships they established with their infants were inferior and their children generally did less well on program tasks. Finally, on the initial Cattell and on the post-Binet these children ranked lower than the children of non-working mothers.

The younger children of nonworking mothers scored highest on the initial Cattell and on the post-Binet. In spite of their lower CA, these children did as well on program tasks as the somewhat older children of working mothers. The level of mother participation and the quality of mother-child interaction for this group was clearly superior to that found in the group of working mothers but clearly inferior to that observed in the group of nonworking mothers with older infants, a discrepancy which may be related to the developmental nature of many of the program tasks.

The older children and their nonworking mothers demonstrated the superior performance on all evaluations with the exception of post-Binet scores where these children ranked second. The high level of participation of the women in this group and their commitment to program goals were clearly indicated by their remarkable attendance record, their ability to extend their teaching skills in innovative ways, and their 100% endorsement of a second-year program. Their teaching effectiveness is reflected in the interest shown by their children in the program materials, in their level of spontaneous verbalization, and in their consistent mastery of program tasks.

CHRONOLOGY

Group	N	1965		1966		1967		1968
		Battery 1		Battery 2		Battery 3		Battery 4
Traditional	25	52.4*	preschool	60.4	pub. Kdg. only	72.6	pub. 1st grade	83.4
Ameliorative	24	52.1	preschool	60.0	pub. Kdg. + supportive program	72.2	pub. 1st grade	83.2
Direct Verbal	10	51.1	preschool	58.6	2nd yr. preschool no pub. Kdg.	71.1	pub. 1st grade	82.0
Direct Verbal	13			Battery 1 50.2	preschool	Battery 2 59.7	2nd yr. preschool no pub. Kdg.	Battery 3 71.1
Community- Integrated	16			48.7	preschool	58.2	pub. Kdg. only	70.2
Montessori	13			49.8	preschool	58.7	pub. Kdg. only	70.8

\*Mean Binet chronological age in months

FIVE PRESCHOOL INTERVENTIONS  
INITIATED AT AGE FOUR

45/46/47

The Effects of Five Preschool Interventions:  
Evaluations over Two Years

Merle B. Karnes, Audrey S. Hodgins,  
and James A. Teska

The involvement of culturally disadvantaged children in preschool education, an experience traditionally reserved to children of more affluent parents, can now be regarded as the major educational phenomenon of the 1960s. Backed by federal funds and spurred by a sense of moral and social urgency, community groups of many different kinds launched preschool programs. Dispensing with rigid professional requirements and having little in the way of established educational theory to draw upon in meeting the special needs of these children, the programs were necessarily innovative. Even when they failed, they served to open the questions of preschool education in fundamental ways.

Interpretations of programs initiated early in this innovative and productive decade were undertaken in only the most general way. As David Weikart (1967) pointed out at a recent symposium on the education of disadvantaged children, comparison and evaluation could not be made with conviction or precision because of the variety of programs and the lack of comparable data and follow-up studies. Weikart concluded that the appropriate area for experimental investigation has become the effectiveness of specific interventions rather than the question of preschool versus no preschool experience.

This study was designed to evaluate the differential effects of five preschool intervention programs through batteries of standardized tests administered prior to the intervention, following the preschool year, and one year later at the end of kindergarten. The classroom interventions were chosen on theoretical as well as practical bases to represent levels of structure along a continuum from the traditional nursery to the highly structured preschool. The nature of teacher-child interaction was considered to be the critical dimension of structure: as the specificity and intensity of this interaction increases so does the degree of structure. Two programs (Traditional and Community-Integrated) represented the less structured end of the continuum; a third (Montessori) embodied an established theory which includes much that can be identified with a child-centered or traditional approach and a methodology which incorporates considerable structure; the fourth (Ameliorative) and the fifth (Direct Verbal) programs fell at the highly structured end of the continuum.

## METHOD

### The Five Programs of Preschool Intervention

During the first year of the study, 75 disadvantaged children, five class units of 15 children each, participated. Two class units were assigned to the Traditional program, two to the Ameliorative program<sup>1</sup>, and one class unit to the Direct Verbal program. In the second year, an additional class unit (16 children) was enrolled in the Direct Verbal program. Double class units were assigned to these three programs because follow-up studies are to continue through the early elementary grades and attrition was expected. During the second year of the study, a class unit of 16 children was enrolled in each of the remaining intervention programs (Community-Integrated and Montessori).<sup>2</sup>

Since the effects of specific classroom interventions were the concern of this study, total impact programs were not considered and variables outside the classroom which may significantly alter the development of the child were not manipulated. All children received medical examinations, but intensive medical follow-up was not undertaken. All parents were offered occasional opportunities to visit classrooms, but no program required intensive parental involvement or provided instruction for parents. Lunch programs were not offered at any preschool. Children were bussed to school and attended daily sessions of approximately two hours and fifteen minutes for a period of no less than seven or more than eight months.

Two programs (Traditional and Ameliorative) were conducted by Karnes, and a class unit consisted of fifteen children and three teachers, a pupil-teacher ratio of 5:1. One qualified preschool teacher was available, and the other positions were filled by college graduates experienced in working with young children. All but one were certified teachers. An inservice training program was conducted for the Traditional teachers prior to the opening of preschool classes. Weekly inservice training sessions were held for the teachers in the Ameliorative program.

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<sup>1</sup>An initial evaluation of the Traditional and Ameliorative interventions, the first phase of this study, appears in Karnes, Wollersheim, Stoneburner, Hodgins, and Teska (1968).

<sup>2</sup>Limited funds required a reduction from two to one class unit for these two interventions, and so the size of a class unit was increased from 15 to 16 children to compensate for attrition. It was assumed that one additional child would not alter classroom dynamics or impair comparability of groups.

In the Direct Verbal program the pupil-teacher ratio of 5:1 was maintained during the first year. In the second year a teacher training program was operated in conjunction with the class and part of the teaching was done by graduate student teachers. One of the permanent staff members was a certified elementary teacher and two were certified high school teachers. On-the-job training for these experienced teachers and for the student trainees was under the supervision of Bereiter and Engelmann, the directors of the Direct Verbal program. Weekly meetings were held in addition to daily discussions among staff members.

The Montessori and Community-Integrated programs operated under the auspices of existing community institutions, and it was not feasible to modify their pupil-teacher ratios to conform to those of the other programs. The Montessori program employed a qualified Montessori teacher and one trained teacher-aide for the 16 children, a ratio of 8:1. The pupil-teacher ratio in the Community-Integrated preschools varied from 6:1 to 10:1. Qualified preschool teachers were employed at these centers. One center used mother-aides in addition to its professional staff.

The five programs of classroom intervention may be distinguished as follows:

1. Major goals of the Traditional nursery school program were to promote the personal, social, motor, and general language development of the children. Teachers were instructed to capitalize on opportunities for incidental and informal learning, to encourage the children to talk and to ask questions, and to stimulate their interest in the world around them. Music, story, and art activities were scheduled regularly each week, and special efforts were made to interest the children in books. Outdoor play was a part of the daily routine; indoor play focused on a doll and housekeeping center, a vehicle and block center, and a small toy center which featured puzzles, beads, puppets, books, and the like. Juice time, rest, show and tell, and the routine supervision of toileting and outdoor wraps completed the daily schedule.

2. The Community-Integrated program, operated at four neighborhood centers, provided a traditional nursery school experience similar to the one outlined above. These centers were licensed by the state and were sponsored by community groups, and classes were composed predominately of middle- and upper-class Caucasian children whose parents paid tuition which ranged from \$18 to \$40 a month. Two to four disadvantaged children from the research class unit of 16 attended morning or afternoon sessions at one of these four centers.

Socioeconomic integration was the pertinent variable rather than racial integration which was achieved in all programs.



Spontaneous verbal interactions represent critical opportunities for language development in the traditional nursery school since substantial periods of time are given to peer-initiated play. Language inadequacies of disadvantaged children might, therefore, sharply limit their progress in language development in such a setting. Central to the altered classroom dynamics in the Community-Integrated program was the presence of an advantaged-peer language model in addition to the teacher model provided in all programs. The high ratio of advantaged children assured that these children would determine the level of spontaneous verbalization. To the extent that children in a traditional nursery school acquire language from each other, the Community-Integrated program provided the optimum setting for verbal development.

3. The Montessori program was administered by the local society which had offered classes during the preceding three years. Staff and classroom materials met Montessori standards. The daily schedule began with a routine health check and toileting. The group then met "on the line" for conversation, songs, finger plays, and exercises. The following half hour was devoted to "spontaneous choice" of approved materials: templates and stylus, cylinder blocks, dressing frames, color and weight tablets, touch boards, counting devices. The Montessori teacher noted that this class of disadvantaged children required teacher-presentation of materials more often than was typical of other classes at the school. Spontaneous choice was followed by a second period on the line devoted to musical activities, stories, and games. A "practical life" demonstration followed: sponging exercises, fingernail care, cutting of fruits and vegetables, brushing hair and teeth. Juice time, toileting, the silence exercise, and tidying the classroom occupied the next half hour. The final ten or twenty minutes of the session were given over to playground activities or supervised short walks. Field trips received major emphasis: the fire station, the library, a shopping mall, a music store, a dog kennel, an art museum, a flower show, a farm.

The specific nature of the "prepared environment" raised the level of structure within the Montessori classroom beyond that of the two traditional programs. The Montessori teacher did not, however, maintain the high level of specific control over the actions of the children required by the teachers in the two highly structured programs. Structure in the Montessori program derived not from direct teacher-child interaction but from the prescribed manner in which the child learned from the materials.

4. In the Ameliorative program, manipulative and multi-sensory materials were chosen to provide the framework for eliciting the verbal responses necessary for language development which was considered to be a critical area of deficit for disadvantaged children. The basic concepts to be taught as well as the specific learning tasks were chosen because their mastery is requisite to successful academic performance in early elementary school.

Content to be learned was presented in a game format which employed manipulative materials but was structured by the teacher to require concurrent verbal responses. Teachers were instructed to accommodate their teaching strategy to the performance of the children on battery-one tests and to incorporate into their lesson plans the various facets of the language process embodied in the Illinois Test of Psycholinguistic Abilities.

Each class unit (N=15) was divided into three groups on the basis of Binet IQ with one teacher for each group. Groupings were flexible, however, so that children who needed extra supervision or instruction could be somewhat evenly distributed or children who did not perform according to test indications might be more appropriately placed. The daily schedule was divided into three 20-minute structured learning periods: math concepts, language arts and reading readiness, and science-social studies. A large room where the 15 children could gather for group activities was available; however, most of the instruction took place in relatively small cubicles off the main room. Each cubicle contained materials appropriate to one of the three content areas, and each teacher moved from one cubicle to another with her group of five children.

Since the teacher-child relationship is of primary importance in securing motivation and in providing opportunities for the reinforcement of learning, each group remained with the same teacher for the three structured learning periods, for juice, and for field trips. The low pupil-teacher ratio allowed for differentiation of instruction to provide a high success ratio for each child. Immediate correction of incorrect responses (often through the repetition of model sentences or through duplicate layouts of small manipulative materials) and reinforcement of appropriate responses (usually through praise) assured the children of their competencies in handling curricular requirements and enhanced their intrinsic motivation to learn. Frequent review extended content previously presented and provided opportunities to use further the vocabulary and sentence structures which had been taught.

Children were free to form their own peer groupings during the music period and during a brief period of directed play which stressed visual-motor activities such as puzzles, blocks, clay, nesting and stacking toys, and pounding nets. No use was made of outdoor play equipment or traditional preschool toys such as dolls, toy appliances, cars, or trucks. Concepts taught during the structured periods were reinforced during directed play and especially during the music period. For example, when body parts were introduced in science or counting in math, these concepts were stressed in songs and rhythmic activities during music.

The general goals of the social studies and science curriculum were to teach useful vocabulary, to develop skills of classification,

to provide simple experiences in developing sensory discriminations and in observing natural phenomena. The curriculum began with a unit on body awareness and self-concept developed through the use of body exercises, songs, pre-cut unassembled figures, and body outlines of the children. A unit on family members and immediate home environment followed which used integrated pictures, rubber play people, and family puppets; clothing cut from catalogs and sorted according to body parts, family member, or season; furniture items cut from catalogs and sorted according to type or appropriate room; go-together pictures such as a hand and a mitten, a chair and a table. A kitchen science unit, through the demonstration of simple scientific principles, provided opportunities for careful observation and verbalization of what had been seen, heard, tasted, or touched. Basic vocabulary included melt, boil, and freeze; dry and wet; relative temperature words such as cool, warm, and hot; dissolve; taste words such as sweet, sour, and salty. Additional units in this curriculum were germination of seeds and plant growth, farm and wild animals, fruits, vegetables, community buildings and workers, vehicles, weather, seasons, and time sense.

Objectives of the math curriculum involved the development of basic number concepts, appropriate manipulative skills, and a useful vocabulary. The general areas included the identification of five geometric shapes; one-to-one matching and its relationship to copying patterns, matching quantity, and establishing sets and verifying their equivalency; dimensional terms and seriation; counting as a functional concept; the introduction of numerals as visual symbols; and beginning addition and subtraction with manipulative objects such as popsicle sticks, bottle caps, and peg boards.

Multiple copies of inexpensive books were the most important instructional material in the language arts and reading readiness curriculum. As the teacher read, each child held his own copy of the book; he learned to hold the book right-side-up, to turn the pages singly and in sequence, to associate the pictures with the story being read, to develop left-to-right progression, and to associate the printed symbol with meaning. In addition, the small group storytime provided opportunities for reinforcing and elaborating upon vocabulary previously taught; for both short and long range memory activities; for sequencing events to show cause and effect and time relationships; for making inferences and, on occasion, divergent responses. Finally, as the story was read, the child heard acceptable syntactical models and the familiar constructs of the language. He absorbed the rhythms and stresses of standard, informal English. This curriculum also included activities which developed visual-motor coordination and which emphasized the rather fine visual and auditory discriminations requisite for reading readiness.

Language development received major emphasis throughout the day and especially during the three structured periods.

Verbalizations in conjunction with the manipulation of concrete materials were considered to be the most effective means of establishing new language responses. The game format (card packs, lotto games, models and miniatures, sorting, matching, and classifying games) created situations where verbal responses could be made repeatedly in a productive, meaningful context without resorting to rote repetition; often the child could visually and motorically assess the correctness of his thinking before he made an appropriate verbalization. If the child was unable to make a verbal response, the teacher supplied an appropriate model; when he began to initiate such responses, the teacher had the opportunity to correct, modify, and expand his verbalizations.

5. In the Direct Verbal program<sup>3</sup> intensive oral drill in verbal and logical patterns was chosen as the mode for instruction since disadvantaged children were considered adequate in perceptual and motoric skills but inadequate in verbal and abstract skills. A deliberate effort was made, therefore, to minimize the use of visual and manipulative materials. The curriculum was developed from a study of task requirements.

The children were divided into three groups of approximately five each, initially on the basis of Stanford-Binet IQ scores but later on the basis of teacher evaluation of the children's ability to learn, retain, and process what was taught. Each of the three teachers conducted a major learning period (language, arithmetic, or reading) for the three groups. A fourth teacher worked with children whose performance was too low to permit them to keep up with the instructional groups. Initially three children were in this group.

The major emphasis of the daily schedule was on three, twenty-minute, small group instructional sessions. These sessions were represented to the children as work rather than play. The child's responsibility was to speak when called upon, to try hard to give the correct responses, and to refrain from diversionary activities such as social play or running around the room. Adherence to these behavioral rules was rewarded by verbal praise, fortified during the first month with cookies. Children were reprimanded for deviations from the rules and, if this was not effective, were excluded from the instructional group for short periods of time. Every effort was made to keep the instructional sessions lively and enjoyable and to shift the basis of motivation to the children's own accomplishments and progress as improvement became demonstrable.

The general instructional strategy in the three subjects was that of rule followed by application. A verbal formula was learned by rote and then applied to a series of analogous examples of

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<sup>3</sup>The Direct Verbal program descriptions for both years were written with Mrs. Jean Osborn who has been with that program since its inception. A more detailed account of this intervention is found in Bereiter and Engelmann (1966) and in Bereiter (1967).

increasing difficulty. Tasks were initially presented in a highly structured form that provided a maximum of syntactical and presentational prompts; then the task was systematically "destructured" to remove these prompts and admit the variations in presentation that would be encountered in normal situations.

The language program focused on minimum essentials of language competence which were identified as the logical requirements of a communication system that permits academic teaching to go on rather than on the basis of frequency of use. The objective was a kind of basic English that teacher and child may use in the conduct of elementary education--a basic English, therefore, which does not embody all the concepts a child should master but which provides a medium through which those concepts may be learned.

Since learning the rules of language and logic is a matter of grasping and generalizing analogies, the program was structured to dramatize those analogies. Rather than grouping concepts on the basis of thematic associations (concepts related to school or zoo), they were grouped on the basis of rules governing their manipulation. Thus polar sets of diverse content (big-little and hot-cold) were taught as parts of a single sequence, so that the child grasped the major principle governing such sets: If something is not one member of the set, it is the other member of the set. Maximizing the number of monitored responses that each child made in a class period was considered to be the critical tactical problem in teaching language to disadvantaged children.

The language program at the outset required only that the child be capable of making an attempt to imitate what was said to him. The process began by teaching a basic identity statement applied to familiar objects: "This is a \_\_\_\_\_. This is not a \_\_\_\_\_." When this statement was mastered (and mastery of the not-statement was a major challenge to many seriously deprived children), new language patterns were introduced: plurals, polar and non-polar sets, prepositional phrases, sub-class nouns, active verbs, common tenses, and personal pronouns. The remainder of the language program was devoted largely to if-then statements in which the major problems are logical ones concerning the use of all, only, some, and or. The program culminated in the use of language for deductive reasoning.

The teacher implemented the language program through a basic verbal repertoire which represented a hierarchy of task difficulty:

#### Verbatim repetition

Teacher: This block is red. Say it.  
Children: This block is red.

### Yes-No questions

Teacher: Is this block red?  
Children: No, this block is not red.

### Location tasks

Teacher: Show me a block that is red.  
Children: This block is red.

### Statement production

Teacher: Tell me about this piece of chalk.  
Children: This piece of chalk is red, etc.

Teacher: Tell me about what this piece of chalk is not.  
Children: This piece of chalk is not green, etc.

### Deduction problems

Teacher: (With piece of chalk hidden in hand) This piece of chalk is not red. Do you know what color it is?  
Children: No. Maybe it is blue; maybe it is yellow.

Since the arithmetic of natural numbers legitimately can be reduced to counting operations, the arithmetic program emphasized a "science of counting" without reference to phenomena that can be interpreted arithmetically. The disadvantaged child was assumed to lack the verbal and logical sophistication necessary to abstract arithmetic principles from everyday experiences, a sophistication required by "activity methods" of teaching arithmetic. Experiential referents were utilized later in the gradual destructuring of tasks.

After the initial teaching of counting, arithmetic was taught through equations emphasizing the idea that any equation could be read as a statement of fact and also as an instruction that told how the fact could be established through a counting operation. Thus, an equation ( $3 \times 4 = 12$ ) could be read as the statement of fact (Three times four equals twelve.) and as an operational rule (If you count by three's four times, you end up with twelve.). The introduction of an unknown ( $3 \times b = 12$ ) created a question (Three times how many equals twelve?), and the operation for finding the answer created a question (Count by three's how many times to end up with twelve?). Analogous statements and operations were used for addition, subtraction, and division (expressed by fractions).

The kind of pattern drill used in the language program to teach basic grammatical rules was also used in arithmetic. Again the child learned to generalize to new instances through drill on a sufficient number of analogous instances. Pattern drills were

used to teach the "plus zero" rule (One plus zero equals one, two plus zero equals two, eight plus zero equals eight.), the "plus one" rule, and finally the operation for working up from a given number plus zero to the given number plus a given addend (What's eight plus three? If eight plus zero equals eight, eight plus one equals nine, eight plus two equals ten, and eight plus three equals eleven.).

The children were taught to read with a modified Initial Teaching Alphabet. The innovations, which were introduced primarily with the low performing children, had to do with the formation of long-vowel sounds and the convention for blending words. The following symbols designated long-vowel sounds:  $\bar{a}$ ,  $\bar{e}$ ,  $\bar{i}$ ,  $\bar{o}$  and helped the child "spell" or sound out a variety of long-vowel words. After the children learned these words ( $s\bar{o}$ ,  $h\bar{e}$ ,  $s\bar{a}ve$ ,  $f\bar{i}ne$ ), the diacritical mark was dropped without grossly changing the total configuration of the word.

To help the children learn how to blend sounds, a skill which many disadvantaged children fail to master after years of reading instruction, only continuous-sound words (fan, not ban or tan) were introduced initially. The children were taught how to proceed from letter to letter without pausing. In sounding out words in this manner, the children were actually saying the words slowly and could see the relationship between the slowly produced word and the word as it is normally produced. To assure adequate performance in blending, the children were given say-it-fast drills with spoken words. ("Say it fast and I'll show you the picture: te-le-phone.")

As early as possible, the children were introduced to controlled-vocabulary stories written by the reading staff. After reading them, the children took them home. Taking stories home functioned as an incentive.

These three academic periods occupied half of the school session. The other half was intended to amplify and reinforce what had been learned. The initial ten-minute period was generally used by the children for working puzzles, playing with a miniature house and its furnishings, or in casual conversations with teachers. Snack time was brief and the only teaching involved was the identification of the color of the fruit drink served. Songs were especially written for the singing period which lasted fifteen to twenty minutes and were scheduled to provide practice in language operations which had been taught: singular and plural forms, classification ("If it's a truck, then it's a vehicle," sung to the tune of "Old Gray Mare"), and reversal of elements in phrases. Because of the importance attached to this practice, children were required rather than merely encouraged to sing. Story-telling also provided additional practice in language operations and involved more question-and-answer activity than is common in reading stories to children.

### Selection of Subjects

The subjects for this study were selected from the preschool population of the economically depressed neighborhoods of Champaign-Urbana, a community of 100,000 in central Illinois. Families judged by public aid and school authorities to be economically and educationally deprived were canvassed for children who had no previous preschool experience and who would be four years old before the first of December, an age appropriate for enrollment in public kindergarten the following year. This age criterion was established so that follow-up evaluations could be more efficiently coordinated with the public schools. A home interviewer determined final eligibility for the program after she had completed a detailed family history. In addition, interviewers canvassed certain acutely disadvantaged sections of the city to locate children new to the community or otherwise unknown to the referring agencies.

The 1960 Stanford-Binet Intelligence Scale was administered to eligible children who were then stratified on the basis of their intelligence quotients into three groups: IQ scores 100 and above, 90 through 99, and 70 through 89.<sup>4</sup> The children were assigned to class units (N=15) in which one-third of each class consisted of children who had scored in the "high" IQ range; one-third, the "middle" range; one-third, the "low" range. Mean intelligence quotients were then computed for the three strata and for each class unit. These means were evaluated for comparability between class units as a whole and for strata between classes. These strata insured a balanced range of intelligence scores in each class unit and provided an opportunity to evaluate the effectiveness of the various programs on children from different ability groups. The mean IQ (approximately 95) of children placed in classes is, of course, higher than the mean of children screened.

Class units were examined to assure comparability of sex and race. When necessary, substitutions were made between classes to maintain an approximate ratio of 67% Negro children and 33% Caucasian children and a ratio of approximately 50% male and 50% female children. Finally, each class unit was randomly assigned to a particular intervention program. The initial composition of the groups is summarized in Table 1.

### Evaluation Procedures

Since the intent of this study was to evaluate over a two-year period the effectiveness of five classroom interventions upon the over-all school readiness of disadvantaged children,

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<sup>4</sup>Two children with IQ's below 70 (69 and 67) were included in the study.



Table 1

Initial Group Composition

Group	N*	Mean Binet CA	Mean Binet IQ	Intelligence Strata Means						Race		Sex	
				High	N	Middle	N	Low	N	Caucasian	Negro	M	F
Traditional	25	52.4	94.4	108.6	7	93.9	10	82.6	8	9	16	15	10
Community- Integrated	16	48.7	93.3	105.2	6	95.0	5	77.4	5	5	11	7	9
Montessori	13	49.8	93.4	106.3	3	94.0	6	82.8	4	4	9	8	5
Ameliorative	24	52.1	96.2	107.0	8	95.7	9	84.6	7	7	17	11	13
Direct Verbal	23	50.6	94.6	108.1	7	93.5	8	83.8	8	7	16	9	14

\*Twenty-two children withdrew from the programs before the end of the second year (battery three), and no data for these children are included in this study.

evaluations were made prior to the intervention, at the end of the preschool year, and at the end of the kindergarten year in the following areas:

1. Intellectual functioning as measured by the 1960 Stanford-Binet Individual Intelligence Scale, Form L-M.
2. Language development as measured by the Illinois Test of Psycholinguistic Abilities, experimental edition, 1961.
3. Vocabulary comprehension as measured by the Peabody Picture Vocabulary Test.

In addition, the Frostig Developmental Test of Visual Perception and the Metropolitan Readiness Tests were administered at the time of the second and third batteries. Qualified psychological examiners administered the tests at a school site and were not informed of the program assignments of the children.

## RESULTS AND DISCUSSION AT THE END OF THE PRESCHOOL YEAR

### Statistical Procedure

Statistical treatment of the total battery data (Binet, ITPA total, Peabody, Frostig, and Metropolitan) employed a multivariate analysis of covariance using initial Binet, ITPA total, and Peabody scores as covariates. Since initial Frostig data were not obtained for all groups and since the Metropolitan was not given until the end of the first year, scores from these instruments were not available for use as covariates. A separate multivariate analysis of covariance of ITPA subtest data used the initial scores from the nine subtests as covariates. When multivariate F's were significant, Newman-Keuls tests at the .05 level were conducted in those instances when univariate F's were also significant.

### Total Battery

The F ratio for the multivariate test of equality of mean vectors for the six instruments in the test-two battery was significant at the .0001 level (Table 2). Univariate F's indicated significant differences among the five groups in Binet IQ, Peabody IQ, Frostig PQ, Metropolitan Number Readiness raw score and ITPA total language age difference score. There were no significant differences among the groups on the Metropolitan Reading Readiness raw score.

### Intellectual Functioning

Clearly, the performance of the Ameliorative and Direct Verbal groups on the test-two Stanford-Binet was superior to the performances

Table 2

**Total Battery Multivariate Analysis of Covariance  
Five Groups for One Year**

F ratio for multivariate test of equality  
of mean vectors = 3.8307

df = 24 and 308

P less than .0001

Variable	Between Mean Square	Univariate F	P less than
Binet IQ	299.7921	5.7219	.0004
Peabody IQ	352.9519	2.5625	.0435
Frostig PQ	1158.0615	9.2726	.0001
Metropolitan Reading Readiness Test Raw Score	41.2871	.9074	.4631
Metropolitan Number Readiness Test Raw Score	108.7465	8.3765	.0001
ITPA Total Language Age Difference Score*	139.1513	5.1118	.0010

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference score (in months) were used as covariates.

\*To relate language age to chronological age, a difference score (in months) was computed by subtracting a child's chronological age at the time of testing from his language age.

of the other three groups (Table 3). Although the Traditional group was not significantly lower than the Ameliorative or Direct Verbal group, neither was it significantly higher than the Community-Integrated or Montessori group. Initially the IQ scores of one-third of the children in each intervention group placed them in high strata, 100 and above. On test two 92% of the children in the Ameliorative group and 74% of the children in the Direct Verbal group fell in this stratum while only 31 to 54% of the children in the other three groups earned such scores. The two children in the Ameliorative group who were not in the high stratum scored 96 and 98 on test two and had initially scored in the low stratum. No child in the Direct Verbal group remained in the low stratum. Not only did significant numbers of children in the other three programs fail to score 100 at the time of test two, but 15 to 31% fell in low strata, 89 and below.

An examination of the distribution of IQ gains (Table 4) contributes to a fuller understanding of differences in group performance. Approximately 70% of the children in the two highly structured programs (Direct Verbal and Ameliorative) made gains of 10 or more points; only 30 to 40% of the children in the other three groups made gains of that magnitude. No child in the Ameliorative and Direct Verbal programs failed to make a gain. Fifteen to twenty-four percent of the children in the other three groups scored lower on test two than on test one.

The distribution data reflect one of the most important findings of this study: The two highly structured programs had a positive effect on the IQ score of every child in attendance, and one must assume that these two programs provided unique opportunities for enhancing the level of intellectual functioning with remarkable consistency. In the Ameliorative program, structure predicated active involvement of teacher and child. Through manipulative experience, the child moved to physical mastery of a concept and was required by the teacher to make appropriate verbalizations. Moving from structured, physical involvement within a meaningful, productive context to independent, conceptual verbalizations is appropriate to intellectual development. The teacher monitored the child's manipulative performances and assessed the adequacy of his verbal responses so that she could alter the learning situation appropriately. It was the function of the teacher to provide sufficient repetition to establish new verbal responses and to alter the learning task to encompass further cognitive and verbal complexities. The children in the Direct Verbal group, through intensive teacher-child interaction characterized by oral pattern drill in verbal and logical operations, mastered the basic elements of a communication system designed to provide a medium through which instruction would continue. This procedure, radically different from that of the Ameliorative program, proved to be equally successful in enhancing intellectual functioning. In the other three programs a variety of learning experiences was made available to the children, but their involvement in specific

Table 3

Stanford-Binet Mean IQ  
Five Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	94.4	8.2	102.6	- 8.96
Community-Integrated	16	93.3	5.1	98.4	-12.16
Montessori	13	93.4	6.4	99.8	-12.52
Ameliorative	24	96.2	13.8	110.0	- 3.84
Direct Verbal	23	94.6	13.0	107.6	- 4.74

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	M	C-I	T	DV	A
	-12.52	-12.16	-8.96	-4.74	-3.84

Differences

M	.36	3.56	7.78*	8.68*
C-I		3.20	7.42*	8.32*
T			4.22	5.12
DV				.90

Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	4.68	5.63	6.18	6.56

$\sqrt{MS}$  within/harmonic mean = 1.665

\*Significant difference at .05 level

- Summary:
1. The Ameliorative and Direct Verbal groups, which were not significantly different from each other, were significantly higher than the Montessori and Community-Integrated groups.
  2. The Traditional group was not significantly higher than the Montessori and Community-Integrated groups or significantly lower than the Direct Verbal and Ameliorative groups.

Table 4

Distribution of IQ Gains  
Test 1-2 (Preschool Year)

Test 1-2 Gain in IQ Points	Group									
	Traditional N=25		Community- Integrated N=16		Montessori N=13		Ameliorative N=24		Direct Verbal N=23	
	%	N	%	N	%	N	%	N	%	N
25 to 29	0	0	12	2	0	0	8	2	4	1
20 to 24	8	2	6	1	0	0	12	3	17	4
15 to 19	20	5	0	0	15	2	21	5	22	5
10 to 14	12	3	12	2	23	3	29	7	30	7
5 to 9	28	7	6	1	31	4	25	6	9	2
0 to 4	12	3	38	6	15	2	4	1	17	4
- 1 to - 5	20	5	12	2	0	0	0	0	0	0
- 6 to -10	0	0	6	1	15	2	0	0	0	0
-11 to -15	0	0	0	0	0	0	0	0	0	0
-16 to -20	0	0	6	1	0	0	0	0	0	0

NOTE: IQ gains (test 1-2) by race-sex categories are found in appendix A.

experiences was not required and verbal responses were not insisted upon. Individual children in these programs did indeed make gains equal to and greater than the highest gain made by any child in either structured program. However, the number of children who made these excellent gains is overshadowed by the percentage who made minimal gains and regressions.

The distribution of gains in the Community-Integrated group merits comment, particularly since this was the only intervention in which disadvantaged and advantaged children were integrated. Sixty-two percent of the disadvantaged children in this group made minimal gains (0-4 points) or lost IQ points. At the other extreme, three children (18%) made very large gains and were essentially responsible for the mean gain of the entire group.<sup>5</sup> Since the Community-Integrated and Traditional programs provided similar experiences, one would expect a parallel distribution of gains. Since this was not the case, it is reasonable to assume that the atypical distribution was produced by altered classroom dynamics: the presence of the advantaged children as the majority group.

The disadvantaged children in the Community-Integrated setting remained somewhat uninvolved in certain critical aspects of the program. This was particularly true in the quasi-structured areas of the daily schedule which involved language: show and tell, music, storytime, and discussions at circle time which included the calendar and easel-pictures. The disadvantaged children typically sat in the fringe area at storytime and were observed to remain aloof or to attend absentmindedly. Observers recorded: "Played with the shadows made from his fingers throughout the story. Fiddled with the folds in the window curtains while the story was read. Sat with his rug on his head during presentation of the easel-picture." During music they were observed "making the motions but not singing the words." Neither the teachers of the Community-Integrated group nor the advantaged children rejected the disadvantaged children. In fact, these teachers were seen as giving the disadvantaged children more than their share of attention. It is fair to add, however, that this attention was sometimes given to the acting out or aggressive child rather than to the aloof or uninvolved child.

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<sup>5</sup>No obvious characteristic of these three children or their group placement seems to have been related to their high gains. A particular community preschool did not account for these gains since each of the three attended a different preschool. Their racial distribution was the same as that of their intervention unit, two Negro and one Caucasian. There were two females and one male, and there was one child from each of the three intelligence strata.

The disadvantaged children functioned adequately in areas of the daily schedule which emphasized large motor development and social skills and sought these areas for themselves. The block and vehicle center was popular with the boys as was the doll and housekeeping center with the girls. Even in these areas, however, the disadvantaged child's verbal functioning was minimal. One girl, for instance, played house happily and well for an hour with a boy from the advantaged segment of the class. He spontaneously verbalized his play activity; she, however, cleaned the house, made breakfast, washed the dishes, and even packed his lunch without speaking. It is reasonable to conclude that the disadvantaged children sought situations in which they felt competent and avoided those in which they felt inadequate. It was obvious that verbal situations made them feel inadequate.

Since the spontaneous speech of the advantaged children was well developed, it is not surprising that the silence of the disadvantaged children went relatively unmarked by the Community-Integrated teachers. In other words, the songs were well sung, the easel-pictures and the calendar were developed in great verbal detail, but the dominant group, the advantaged children, were responsible for the success of these activities. In the Traditional group, however, these quasi-structured and basically verbal activities had to be sustained through the participation of disadvantaged children. In this setting the teachers were keenly aware of the language inadequacies of their group. The children could not avoid these situations or remain uninvolved because there were no other children to replace them in sustaining the activity. Implicit in the equipment, in the activities which make up the daily schedule, and in the philosophy of the traditional nursery school is the assumed middle-class background of the children: Four-year-old children enjoy listening to stories; four-year-old children spontaneously verbalize about their environment; four-year-old children talk freely during their play. The Community-Integrated teachers could operate effectively within these assumptions because the majority of their children met these expectations; the teachers in the Traditional program necessarily accommodated the operation of their program to the background and performance of the children.

### Language Development

Evaluation of the effectiveness of the five programs in fostering the language development of disadvantaged children is the second major purpose of this study. The Ameliorative program emphasized the acquisition of specific verbal skills, and learning activities were structured to emphasize the co-relation of cognitive and language development. Teachers incorporated into their lesson planning the various facets of the language process as embodied in the Illinois Test of Psycholinguistic Abilities (ITPA) and adjusted their teaching strategy to the test-one ITPA profiles of



individual children. In contrast, the Direct Verbal curriculum did not include specific language skills because of their relation to the language model of the ITPA but because they met the logical criteria of the minimum essentials of language competence. The opportunities for language development in the Traditional program occurred in more general ways, specifically in quasi-structured activities such as show and tell, circle time, music, and in spontaneous situations arising from play. The influence of peer language models should have been more important for the Traditional group than for the two structured groups which had fewer opportunities for spontaneous language. Situations affecting language development in the Community-Integrated program were similar to those operating within the Traditional group but were most obviously altered by the introduction of peer language models from an advantaged segment of the population. Finally, the Montessori program focused on motor-sensory learning as the basic mode in which conceptual and linguistic abilities occur, following the pattern of the child's sensorial development.

Comparisons among groups on the basis of language age scores obtained from the ITPA are confounded by slight differences in the initial mean chronological ages of the groups and slight variations in test intervals (Table 5). To compensate for these varia-

Table 5

Mean Chronological Age in Months  
at the Time of ITPA Testing

Group	N	Test 1	Interval	Test 2
Traditional	25	53.4	6.9	60.3
Community-Integrated	16	49.3	8.6	57.9
Montessori	13	50.2	8.2	58.4
Ameliorative	24	52.6	7.7	60.3
Direct Verbal	23	51.1	8.3	59.4

tions and to relate language age scores to chronological age, a difference score was computed by subtracting a child's chronological age at the time of testing from his language age score. For example, a child who was 48 months old at the time of test one and earned a language age score of 40 months on a given subtest would receive a difference score of -8 months; that is, he had a deficit of 8 months on that subtest. Statistical treatment of the data was conducted on and is reported for these difference scores. It must be kept in mind that a difference score gain of five months between test one and test two would represent, for example, thirteen months of change in language age score: five months reduction of deficit plus eight

months of gain required by the interval between tests. Children who scored below the norms provided in the Examiner's Manual were arbitrarily assigned the lowest language age score of that subtest.

Since the intelligence strata design used in this study produced an inflated Binet IQ mean compared to the mean of the disadvantaged children screened, it is reasonable to assume that this procedure would also produce inflated ITPA means; and it is not surprising to discover that these means do not indicate deficits in all subtests of the ITPA. The disadvantaged children in the five groups in this study, as well as the children in other groups throughout this project, consistently demonstrated major initial deficits on three subtests: Vocal Encoding, Auditory-Vocal Automatic, and Auditory-Vocal Association. In addition to the specific aspects of language functioning measured, the ability to express oneself verbally is the common requisite for successful performance on these three subtests. These sharply limited verbal expressive abilities, reflective of a verbally impoverished environment, are the crucial challenge to which preschool intervention programs regardless of strategy or orientation must be addressed, and the relative performances of the five groups on these three subtests are critical to program evaluation.

The F ratio for the multivariate test of equality of mean vectors for the nine ITPA subtests was significant at the .0001 level (Table 6). Univariate F's indicated significant differences among the five groups on five subtests including the three subtests which reflected the major area of initial deficit--verbal expressive ability.

The Ameliorative, Traditional, and Direct Verbal groups made good progress (8 to 12 months) on the Vocal Encoding test, and their test-two performances were essentially nondeficit (Table 7). The Community-Integrated and Montessori groups obtained lower scores on test two than on test one and made regressions of five and three months respectively. The Ameliorative, Direct Verbal, and Traditional groups did not differ significantly from each other, but were significantly higher than the Community-Integrated and Montessori groups.

On the Auditory-Vocal Automatic test the Ameliorative group clearly made the greatest progress and was the only nondeficit group at the time of test two (Table 8). The Ameliorative group was significantly higher than the Community-Integrated and Montessori groups and very nearly statistically higher than the Direct Verbal group. The Montessori group was significantly lower than the other four groups. The magnitude of its regression (10 months) is particularly striking and resulted from a raw score mean which was, in fact, lower on test two than it had been on test one.

Table 6

ITPA Subtest Multivariate Analysis of Covariance  
Five Groups for One Year

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F ratio for multivariate test of equality  
of mean vectors = 3.0810

df = 36 and 298                      P less than .0001

---

Variable	Between Mean Square	Univariate F	P less than
Auditory-Vocal Automatic	756.8685	6.3623	.0002
Visual Decoding	305.2037	1.4825	.2145
Motor Encoding	413.1699	1.7864	.1389
Auditory-Vocal Association	380.9284	5.2065	.0009
Visual-Motor Sequencing	106.0372	.9494	.4396
Vocal Encoding	735.6577	5.7654	.0004
Auditory-Vocal Sequencing	317.6089	2.8698	.0277
Visual-Motor Association	914.5945	5.1614	.0009
Auditory Decoding	169.1533	.9748	.4256

---

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

Table 7

**Vocal Encoding Test**  
**Mean Language Age Difference Score in Months**  
**Five Groups for One Year**

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-15.1	10.8	- 4.3	41.38
Community- Integrated	16	- 8.2	- 4.7	-12.9	31.95
Montessori	13	-12.6	- 2.7	-15.3	29.85
Ameliorative	24	-14.7	11.7	- 3.0	46.73
Direct Verbal	23	-11.3	8.0	- 3.3	41.81

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	M	C-I	T	DV	A
	29.85	31.95	41.38	41.81	46.73

Differences

M	2.10	11.53*	11.96*	16.88*
C-I		9.43*	9.86*	14.78*
T			.43	5.35
DV				4.92
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	7.30	8.78	9.64	10.24

$\sqrt{MS}$  within/harmonic mean = 2.598

\*Significant difference at .05 level

**Summary:** The Ameliorative, Direct Verbal, and Traditional groups, which did not differ significantly from each other, were significantly higher than the Community-Integrated and Montessori groups, which did not differ significantly from each other.

Table 8  
**Auditory-Vocal Automatic Test**  
**Mean Language Age Difference Score in Months**  
**Five Groups for One Year**

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	- 8.4	4.0	- 4.4	-32.54
Community- Integrated	16	-14.1	- 1.0	-15.1	-38.56
Montessori	13	- 9.6	-10.2	-19.8	-46.50
Ameliorative	24	-12.1	12.4	.3	-26.57
Direct Verbal	23	-11.7	2.5	- 9.2	-34.98

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	M	C-I	DV	T	A
	-46.50	-38.56	-34.98	-32.54	-26.57

Differences

M	7.94*	11.52*	13.96*	19.93*
C-I		3.58	6.02	11.99*
DV			2.44	8.41
T				5.97

Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	7.05	8.48	9.31	9.89

$\sqrt{MS}$  within/harmonic mean = 2.509

\*Significant difference at .05 level

- Summary:
1. The Ameliorative group was significantly higher than the Community-Integrated and Montessori groups but not significantly higher than the Traditional and Direct Verbal groups.
  2. The Traditional, Direct Verbal, and Community-Integrated groups were not significantly different from each other.
  3. The Montessori group was significantly lower than the other four groups.

On the Auditory-Vocal Association test only the Direct Verbal and Ameliorative groups were nondeficit on test two, and the Direct Verbal group was significantly higher than the other four groups (Table 9). Although there were no significant differences among these four groups, the deficit of the Ameliorative group was eliminated while the substantial initial deficits of the Community-Integrated, Montessori, and Traditional groups remained essentially unchanged.

Figure one emphasizes the parallel, regressive performances of the Community-Integrated and Montessori groups on the three subtests of major initial deficit. These two intervention programs apparently did little to enhance verbal expressive abilities. Observers who visited the Montessori classroom noted the lack of verbal expressive experiences: Children were busily engaged with motor-sensory materials for remarkably long periods of time, but silence prevailed. More opportunities for verbal expressive experiences existed in the Community-Integrated program; however, as noted previously, the disadvantaged children tended to withdraw from these situations.

The Traditional group, on the other hand, did relatively well on these three subtests. In two instances they made modest improvement (2 to 4 months) and substantial progress (11 months) in the third. When children participated in verbal expressive activities, as the dynamics of homogeneity required, they did indeed make gains.

The performances of the two highly structured groups were clearly superior to those of the other three. It seems reasonable to conclude that physical involvement alone, no matter how well programmed, sustained, and orderly (Montessori), did not foster the verbal expressive development of disadvantaged children. Neither did spontaneous or relatively unstructured opportunities for such development (Community-Integrated and Traditional) prove adequate. The major initial deficit of the Direct Verbal group was eliminated on two of the three subtests. The emphasis on polar concept drill seems clearly related to its gains in Auditory-Vocal Association. The required production of verbal responses (statement production drill) was effective in stimulating growth in Vocal Encoding. The failure of the Direct Verbal program to promote substantial growth on the Auditory-Vocal Automatic test is puzzling since repetitive oral pattern drill should have been a highly efficient means of incorporating appropriate grammatical constructs. The major initial deficit of the Ameliorative group was eliminated on each of the three subtests requiring verbal expressive abilities. When activities were structured to engage the child in physical manipulation while concurrent, meaningful verbalizations were elicited, verbal expressive abilities dramatically improved.

Table 9

**Auditory-Vocal Association Test  
Mean Language Age Difference Score in Months  
Five Groups for One Year**

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	- 6.1	1.7	-4.4	-7.32
Community- Integrated	16	-11.1	1.5	-9.6	-9.36
Montessori	13	- 8.4	1.6	-6.8	-9.39
Ameliorative	24	- 5.9	6.5	.6	-4.47
Direct Verbal	23	- 9.8	12.6	2.8	1.23

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	M	C-I	T	A	DV
	-9.39	-9.36	-7.32	-4.47	1.23

Differences

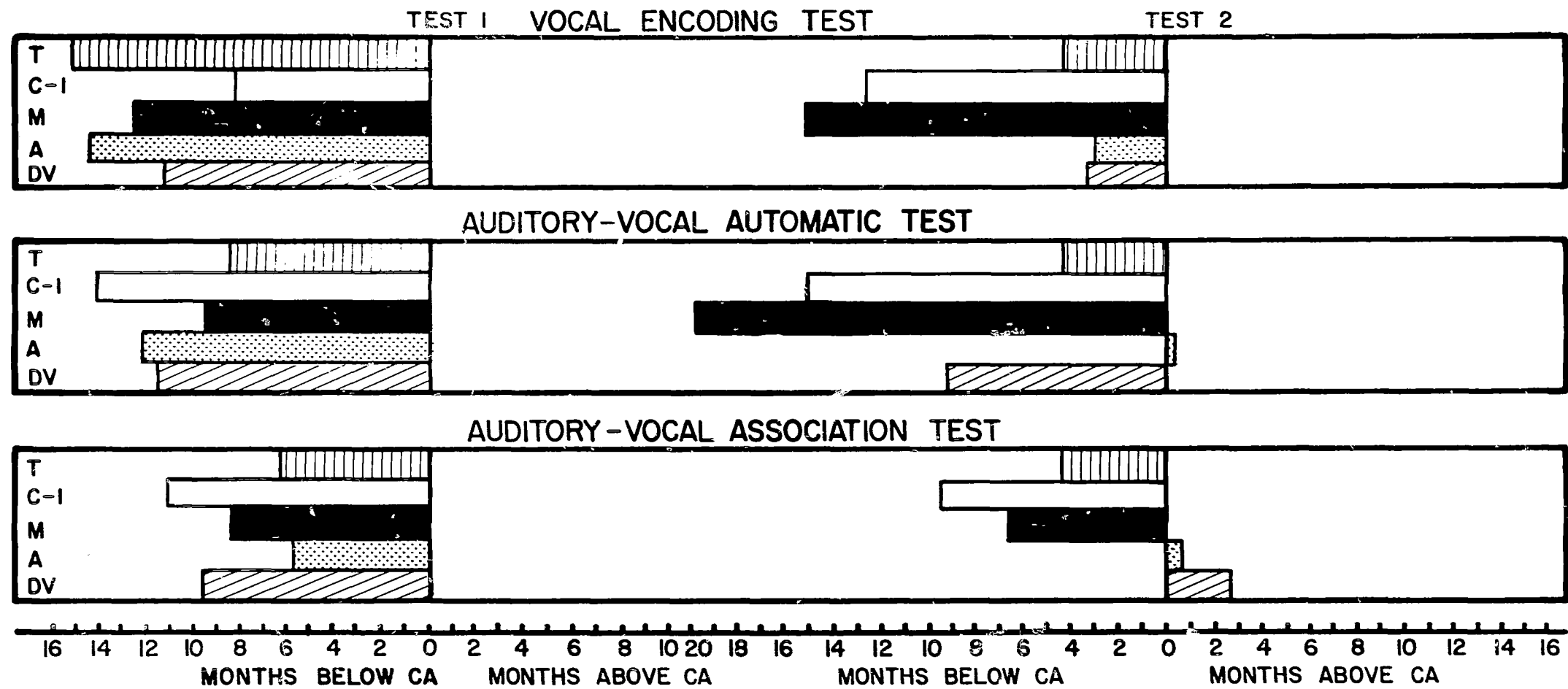
M	.03	2.07	4.92	10.62*	
C-I		2.04	4.89	10.59*	
T			2.85	8.55*	
A				5.70*	
Table Value		2.81	3.38	3.71	3.94
Corrected Table Value		5.53	6.65	7.30	7.75

$\sqrt{MS}$  within/harmonic mean = 1.967

\*Significant difference at .05 level

**Summary:** The Direct Verbal group was significantly higher than the other four groups which did not differ significantly from each other.

FIGURE I  
 DIFFERENCE SCORE MEANS FOR THE THREE ITPA SUBTESTS  
 IN WHICH THE FIVE GROUPS DEMONSTRATED THE GREATEST INITIAL DEFICIT



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On three ITPA subtests the five groups tended to show relatively smaller initial deficits (3 to 6 months): Motor Encoding, Visual-Motor Sequencing, and Auditory Decoding. The univariate F's indicated no significant differences among the groups on these three subtests (Table 6).

Only the Community-Integrated and Direct Verbal groups failed to make progress on the Motor Encoding test (Table 10, Figure 2). The motoric involvement of the Community-Integrated children, noted previously, might have been reflected in this area; this was not the case. Since the Direct Verbal program emphasized patterned verbal interactions without motoric involvement, their failure to progress in this area is not surprising. Their small regression (2 months) is, however, of some concern. The sensory-motor activities provided in the Montessori program and the manipulative experiences which accompanied verbalizations in the Ameliorative program produced substantial and comparable gains (7 and 8 months respectively in excess of the program interval).

The results for the Visual-Motor Sequencing test are presented in Table 11 and Figure 2. With the exception of the Montessori group, all groups were functioning at their chronological age at test two. Differences in gains seem to relate to large differences in initial deficit rather than to specific program variables. The deficit initial performance of the Traditional and Ameliorative groups is not consistent with the nondeficit initial performance of the Community-Integrated and Montessori groups and the minor initial deficit of the Direct Verbal group. Furthermore, five other research class units established in subsequent years according to the procedures outlined in this report did not reveal major initial deficits in Visual-Motor Sequencing. Three of these five classes had no initial deficit; two had four month or relatively minor deficits. These data support the notion that the initial performance of the Traditional and Ameliorative groups was atypical. Since these two groups entered the program during the first year of the study and since this subtest is especially difficult to administer, it is not unreasonable to speculate that examiners subsequently became more proficient and that, therefore, children tested later obtained more valid initial scores. The three-month deficit of the Direct Verbal group represents a seven-month deficit for the class unit which entered the program with the Traditional and Ameliorative groups the first year and a two-month deficit for the class unit which entered the program with the Community-Integrated and Montessori groups the second year. This phenomenon existed on no other subtest.

Only the Montessori group failed to perform at or near its chronological age on the test-two Visual-Motor Sequencing test. These children, in fact, regressed, scoring 5 months below their mean chronological age. One might have assumed that the prominence given to sensory-motor activity in the Montessori program would have assured a continuing nondeficit performance. It is possible

Table 10

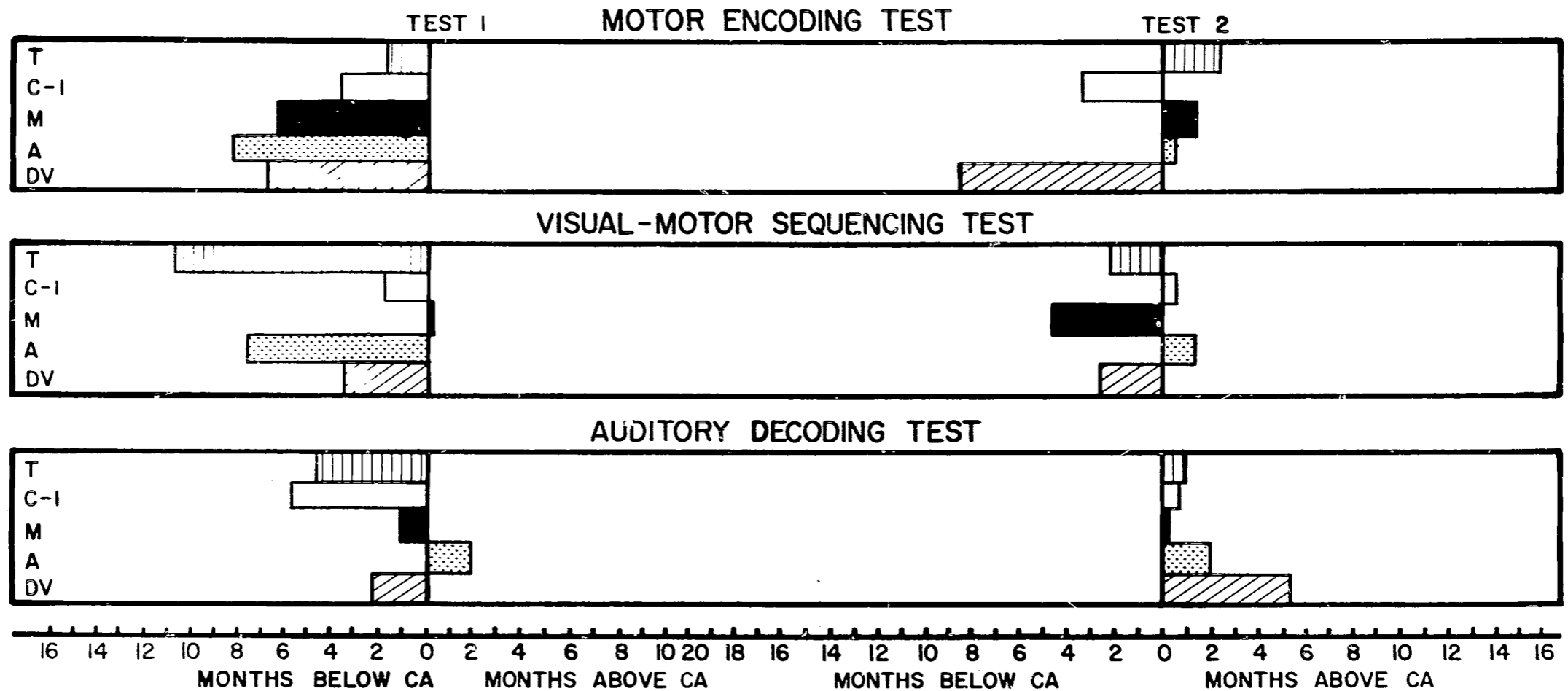
**Motor Encoding Test**  
**Mean Language Age Difference Score in Months**  
**Five Groups for One Year**

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-1.6	3.8	2.2	18.72
Community- Integrated	16	-3.7	.3	-3.4	13.67
Montessori	13	-6.1	7.3	1.2	18.94
Ameliorative	24	-8.2	8.3	.1	19.28
Direct Verbal	23	-6.8	-1.9	-8.7	8.50

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

FIGURE 2  
 DIFFERENCE SCORE MEANS FOR THE THREE ITPA SUBTESTS  
 IN WHICH THE FIVE GROUPS DEMONSTRATED RELATIVELY SMALL INITIAL DEFICITS



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Table 11

Visual-Motor Sequencing Test  
 Mean Language Age Difference Score in Months  
 Five Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-10.8	8.7	-2.1	57.38
Community- Integrated	16	- 1.9	2.3	.4	62.24
Montessori	13	.1	-5.0	-4.9	55.67
Ameliorative	24	- 7.7	9.1	1.4	60.71
Direct Verbal	23	- 3.3	.5	-2.8	58.03

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

that involvement with manipulative materials without specific and directed translation to verbal levels may limit, at least immediately, the development of sequential or memory-related skills. In other words, the child's ability to use verbal labels in his thinking may contribute to maximum performance on this test. Since successful performance on this test requires sustained attention to material and examiner, it is also possible that the rather solitary involvement of the Montessori children with materials may not have equipped them to sustain such attention while interacting with the examiner and their increased deficit may be a reflection of poor interaction rather than visual-sequential inadequacies. This regression is paralleled by a deteriorating performance on the other subtest requiring sequential abilities (Auditory-Vocal Sequencing, Figure 3) where sustained attention to the examiner is also required.

The five groups did not make significantly different progress on the Auditory Decoding test (Table 12, Figure 2). The Traditional, Community-Integrated, and Direct Verbal groups eliminated their modest initial deficits while the Montessori and Ameliorative groups again performed in a nondeficit manner. A discussion of program variables does not seem warranted since the groups made limited and nondifferential progress and all test-two performances were nondeficit.

On three ITPA subtests the five groups showed negligible or no initial deficits: Auditory-Vocal Sequencing, Visual-Motor Association, and Visual Decoding. The univariate F's indicated significant differences among the five groups on two of these three subtests, Auditory-Vocal Sequencing and Visual-Motor Association (Table 6).

Only the Ameliorative group made progress on the Auditory-Vocal Sequencing test (Table 13, Figure 3). The nondeficit performance of the Traditional and Direct Verbal groups remained unchanged. The Community-Integrated and Montessori groups made sizeable regressions (6 and 5 months respectively), and these regressions together with the progress of five months of the Ameliorative group accounted for the significant difference among the groups.

The regressive performance of the Community-Integrated and Montessori groups may be related to their relatively poor test-two performances on all tests requiring verbal interaction with the examiner (Vocal Encoding, Auditory-Vocal Automatic, and Auditory-Vocal Association). The gain of the Ameliorative group (5 months) on the Auditory-Vocal Sequencing test (digit repetition) probably relates to a teaching strategy which required the child to give specific verbal responses, often following a model supplied by the teacher. Although digit repetition was not taught, the opportunity for transfer from the specifics of the mathematics curriculum seems plausible. Verbal pattern drill and the mathematics curriculum in the Direct Verbal program provided similar

Table 12

Auditory Decoding Test  
 Mean Language Age Difference Score in Months  
 Five Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-4.5	5.5	1.0	56.43
Community- Integrated	16	-5.9	6.7	.8	60.59
Montessori	13	-1.0	1.3	.3	56.61
Ameliorative	24	2.0	.0	2.0	54.90
Direct Verbal	23	-2.1	7.4	5.3	62.27

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 13

**Auditory-Vocal Sequencing Test:  
Mean Language Age Difference Score in Months  
Five Groups for One Year**

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	2.5	- .3	2.2	-19.88
Community-Integrated	16	- .6	-6.5	-7.1	-27.40
Montessori	13	.1	-4.6	-4.5	-25.92
Ameliorative	24	1.6	4.9	6.5	-16.75
Direct Verbal	23	3.0	.9	3.9	-18.97

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means					
Group	C-I	M	T	DV	A
	-27.40	-25.92	-19.88	-18.97	-16.75
Differences					
C-I		1.48	7.52	8.43	10.65*
M			6.04	6.95	9.17*
T				.91	3.13
DV					2.22
Table Value		2.81	3.38	3.71	3.94
Corrected Table Value		6.80	8.18	8.98	9.54

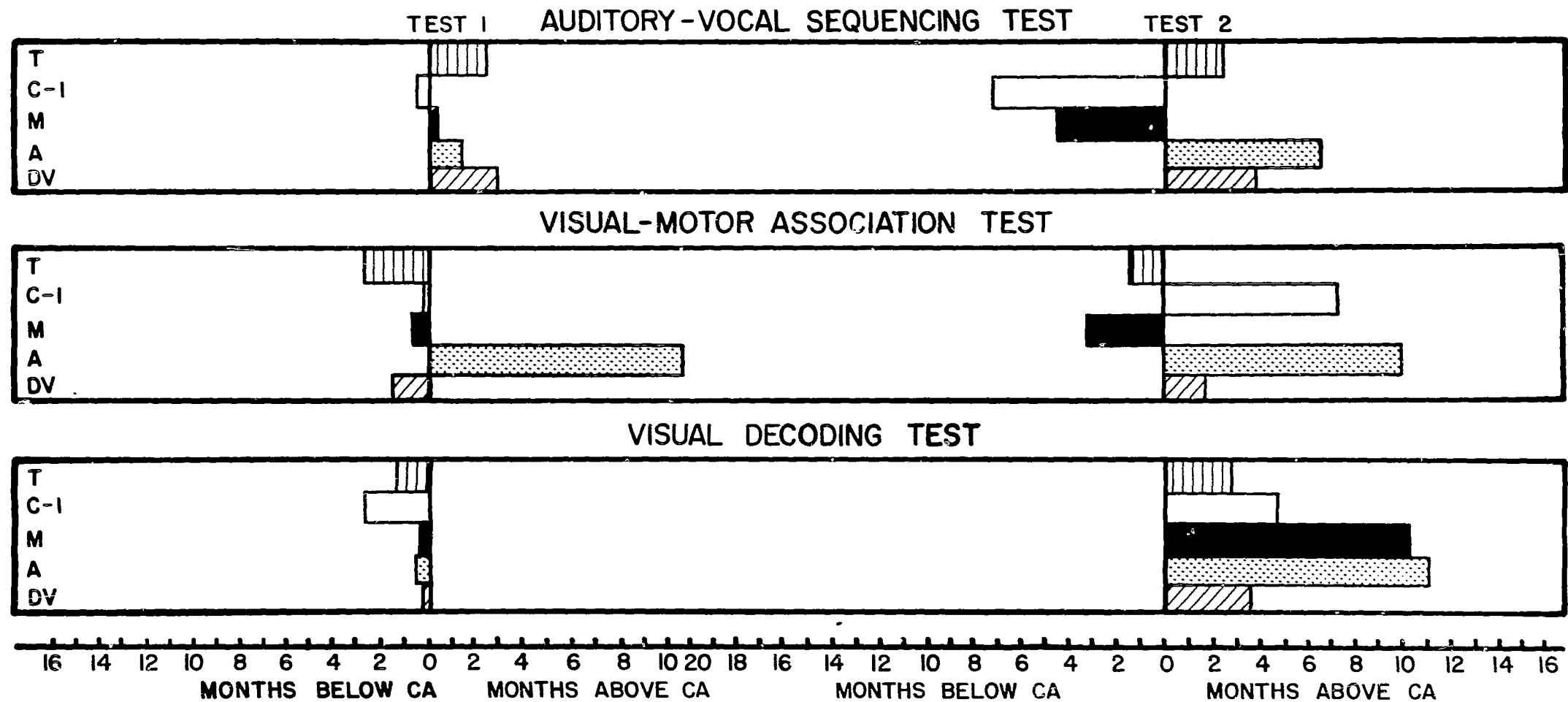
$\sqrt{MS}$  within/harmonic mean = 2.420

\*Significant difference at .05 level

- Summary:**
1. The Ameliorative group was significantly higher than the Montessori and Community-Integrated groups but not significantly higher than the Direct Verbal and Traditional groups.
  2. The Direct Verbal, Traditional, Montessori, and Community-Integrated groups were not significantly different from each other.

**FIGURE 3**  
**DIFFERENCE SCORE MEANS FOR THE THREE ITPA SUBTESTS**  
**IN WHICH THE FIVE GROUPS DEMONSTRATED LITTLE OR NO INITIAL DEFICIT**

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opportunities; however, since this group initially scored three months above their chronological age, further acceleration was not to be expected.

On the Visual-Motor Association test the Ameliorative and Community-Integrated groups were significantly higher than the Traditional and Montessori groups (Table 14, Figure 3). The high test-two score of the Ameliorative group reflects its atypically high test-one performance rather than gains made during the pre-school year and may not be attributed to the specifics of the intervention. The large gain (7 months) of the Community-Integrated group is consistent with its gain on a related subtest, Visual Decoding. Although integration with middle- and upper-class peers did not promote the development of language in the verbal expressive area, the development of reception and association in the visual channel was enhanced beyond the level attained by the Traditional group. Apparently, the enriched environment created by the presence of the advantaged children was not incorporated by the disadvantaged children at the verbal expressive level because they did not participate at this level but was incorporated at the visual level where participation may be experienced through observation.

All groups did well on the Visual Decoding test (Table 15, Figure 3), and the Ameliorative and Montessori groups made very large and comparable gains. The gain of the Ameliorative children placed them 11 months above their chronological age at the time of test two. The naming and labeling activities prevalent in the three curricula, especially activities which emphasized matching, sorting, and classification, may well have helped the Ameliorative group to make this gain. Such activities were scheduled to provide opportunities for vocabulary development and for more precise, expanded, and flexible use of language; however, the method of presentation relied heavily on visual materials. The use of manipulative and visually self-corrective materials in the Montessori program may have helped this group perform equally well on this subtest. These activities, however, did not similarly accelerate the performance of the Montessori group on the Visual-Motor Association test. At any rate, the Montessori group made substantial progress on the Visual Decoding test in marked contrast to its relatively static or regressive performance on seven of the subtests of the ITPA.

On the ITPA total the Ameliorative group was significantly higher than the Community-Integrated and Montessori groups but did not differ significantly from the Direct Verbal and Traditional groups (Table 16, Figure 4). The Direct Verbal and Traditional groups were significantly higher than the Montessori group only. The ITPA total, however, may obscure variations in group performance, and a meaningful summary requires a restatement of subtest data. Three groups, Traditional, Direct Verbal, and Ameliorative, consistently made gains. The Traditional group moved in a positive

Table 14

**Visual-Motor Association Test**  
**Mean Language Age Difference Score in Months**  
**Five Groups for One Year**

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	- 2.6	.9	- 1.7	74.55
Community- Integrated	16	- .2	7.3	7.1	89.32
Montessori	13	- .8	-2.4	- 3.2	77.30
Ameliorative	24	10.9	- .9	10.0	91.39
Direct Verbal	23	- 1.6	3.3	1.7	82.65

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	M	DV	C-I	A
	74.55	77.30	82.65	89.32	91.39

Differences

T	2.75	8.10	14.77*	16.84*	
M		5.35	12.02*	14.09*	
DV			6.67	8.74	
C-I				2.07	
Table Value		2.81	3.38	3.71	3.94
Corrected Table Value		8.60	10.35	11.36	12.06

$\sqrt{MS}$  within/harmonic mean = 3.062

\*Significant difference at .05 level

- Summary:**
1. The Ameliorative and Community=Integrated groups, which did not differ significantly from each other, were significantly higher than the Montessori and Traditional groups but not significantly higher than the Direct Verbal group.
  2. The Direct Verbal, Montessori, and Traditional groups were not significantly different from each other.

Table 15

Visual Decoding Test  
 Mean Language Age Difference Score in Months  
 Five Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-1.3	3.7	2.4	64.46
Community- Integrated	16	-2.8	7.4	4.6	67.79
Montessori	13	- .4	10.5	10.1	73.07
Ameliorative	24	- .6	11.6	11.0	74.43
Direct Verbal	23	- .3	3.8	3.5	66.86

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 16

ITPA Total  
Mean Language Age Difference Score in Months  
Five Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-5.4	4.3	-1.1	23.78
Community-Integrated	16	-6.3	1.1	-5.2	20.33
Montessori	13	-4.2	- .9	-5.1	19.02
Ameliorative	24	-3.7	6.3	2.6	25.96
Direct Verbal	23	-4.7	4.3	- .4	23.90

NOTE: Initial Binet IQ, Peabody IQ, and ITPA language age difference score (in months) were used as covariates.

## NEWMAN-KEULS PROCEDURE

## Covaried Means

Group	M	C-I	T	DV	A
	19.02	20.33	23.78	23.90	25.96

## Differences

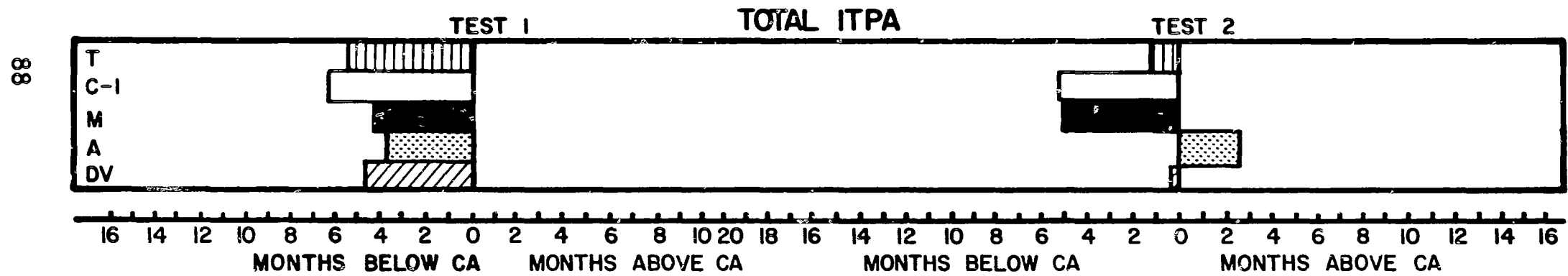
M	1.31	4.76*	4.88*	6.94*
C-I		3.45	3.57	5.63*
T			.12	2.18
DV				2.06
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	3.37	4.06	4.45	4.73

$\sqrt{MS}$  within/harmonic mean = 1.200

\*Significant difference at .05 level

- Summary:**
1. The Ameliorative group was significantly higher than the Community-Integrated and Montessori groups but not significantly higher than the Direct Verbal and Traditional groups.
  2. The Traditional and Direct Verbal groups were significantly higher than the Montessori group but not significantly higher than the Community-Integrated group.

FIGURE 4  
ITPA TOTAL DIFFERENCE SCORE MEANS  
FIVE GROUPS FOR ONE YEAR



direction on eight of the nine subtests. The range of this upward movement was from .9 to 10.8 months, and on three of these eight subtests the gain exceeded 4.6 months.<sup>6</sup> Its one loss was .3 months. The Direct Verbal group also moved in a positive direction on eight of the nine subtests. The range was from .5 to 12.6 months, and on three of these eight subtests the gain exceeded 4.6 months. Its one regression was 1.9 months. The Ameliorative group moved in a positive direction on seven of the nine subtests. The range of this upward movement was 4.9 to 12.4 months, and on all of these seven subtests the gain exceeded the median. On one subtest there was no change and a loss of .9 months occurred on the other.

The Community-Integrated and Montessori groups did not consistently move in a positive direction, reflecting a pattern of more moderate gains and losses. On six of the nine subtests the Community-Integrated group made gains ranging from .3 to 7.4 months; in three instances these gains exceeded 4.6 months. On three subtests, however, the Community-Integrated group demonstrated regressions which ranged from 1.0 to 6.5 months, and in two instances these losses exceeded 4.6 months. The Montessori group moved in a positive direction on four of the nine subtests with gains ranging from 1.3 to 10.5 months. Two of these gains exceeded the median. On five subtests, however, the Montessori group demonstrated regressions from 2.4 to 10.2 months, and in two instances these losses exceeded 4.6 months.

The magnitude of the gains of the Ameliorative group and the consistency with which they were achieved resulted in an essentially nondeficit test-two performance. The Direct Verbal and the Traditional groups made consistent but more modest gains and performed comparably on all subtests with the exception of Auditory-Vocal Automatic and Motor Encoding where substantial deficits remained for the Direct Verbal group. The Community-Integrated and Montessori groups, on the other hand, generally made smaller gains than the other three groups and made gains less consistently. The performance of the Montessori group tended to be somewhat regressive while that of the Community-Integrated group was more nearly static.

A discriminant analysis was conducted with the ITPA subtest data to provide additional information regarding the differential performances of the five groups. The results of this analysis generally confirm the previous discussion. The first function was

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<sup>6</sup>A gain or loss in excess of 4.6 months was chosen as a descriptive evaluation point since in half of the instances mean language age difference scores for the five groups were altered to that extent.

primarily weighted by those subtests which reflect verbal expressive abilities and on which all groups were substantially deficit initially (Vocal Encoding, Auditory-Vocal Automatic, and Auditory-Vocal Association) and by one additional subtest, Auditory-Vocal Sequencing, a subtest which requires a verbal response but on which no group was initially deficit (Table 17). On this first function the Ameliorative group was highest, followed closely by the Direct Verbal group. The Traditional group fell below these two but considerably above the Montessori and Community-Integrated groups.

The second function seems to clarify the differentiation between the Direct Verbal and Ameliorative groups. This function was weighted positively on Auditory-Vocal Association and Auditory Decoding where the Direct Verbal group did well and negatively on Auditory-Vocal Automatic and Visual-Motor Association where the Ameliorative group did well (Table 17, Figure 5). Pattern drill with emphasis on polar and negative structures accounts for the good performance of the Direct Verbal group on the Auditory-Vocal Association and Auditory Decoding subtests which require the child to operate within those structures. As previously noted, the score of the Ameliorative group on the Visual-Motor Association subtest was only a reflection of its atypically high initial performance, and program content cannot be credited with this good performance. On the Auditory-Vocal Automatic subtest, where the performances of the Ameliorative and Direct Verbal groups were sharply differentiated, the substantial initial deficit of the Ameliorative group was eliminated and that of the Direct Verbal group remained. Certainly both structured programs were designed to elicit the maximum number of verbal responses from each child, but apparently verbal responses made in conjunction with meaningful, manipulative experiences were more effectively incorporated into the child's verbal repertoire.

### Vocabulary Comprehension

There were no significant differences among the five groups in vocabulary comprehension as measured by the Peabody Picture Vocabulary Test (Table 18). The Peabody IQ gains of the Direct Verbal, Community-Integrated, and Montessori groups were negligible. The Ameliorative and Traditional groups made the largest gains (11 and 13 points respectively) and were equally effective in promoting vocabulary comprehension at the auditory-visual level assessed by this instrument. The verbal expressive strengths demonstrated in varying degrees by three (Ameliorative, Direct Verbal, and Traditional) of the five groups on the ITPA were not assessed here and may to some extent account for the nondifferential performance on the Peabody.

### Visual Perception

Test-one data were obtained on the Frostig Developmental Test of Visual Perception only during the first year of the study and,

Table 17

Discriminant Analysis  
ITPA Subtests  
Five Groups for One Year

Variable	Raw coefficient 1	Raw coefficient 2
Auditory-Vocal Automatic	- .041558	- .057375
Visual Decoding	.008611	- .009894
Motor Encoding	.021508	- .024422
Auditory-Vocal Association	- .026458	.088463
Visual-Motor Sequencing	.027551	- .021026
Vocal Encoding	- .053344	.004059
Auditory-Vocal Sequencing	- .056481	.005092
Visual-Motor Association	- .003604	- .037076
Auditory-Decoding	.002410	.024264
Percent of Canonical Variation	48.02	29.66

Bartlett's Chi Square Test for Significance of Successive Canonical  
Variables

For roots 1-4 Chi Square = 99.66 with 36 df      P less than .0001  
For roots 2-4 Chi Square = 55.14 with 24 df      P less than .0003

Discriminant Functions

	1	2
Traditional	-11.716	- 2.875
Community- Integrated	-10.210	- 3.075
Montessori	-10.072	- 2.245
Ameliorative	-12.274	- 3.188
Direct Verbal	-12.095	- 1.719



FIGURE 5  
DISCRIMINANT FUNCTIONS FOR THE ITPA SUBTESTS  
FIVE GROUPS FOR ONE YEAR

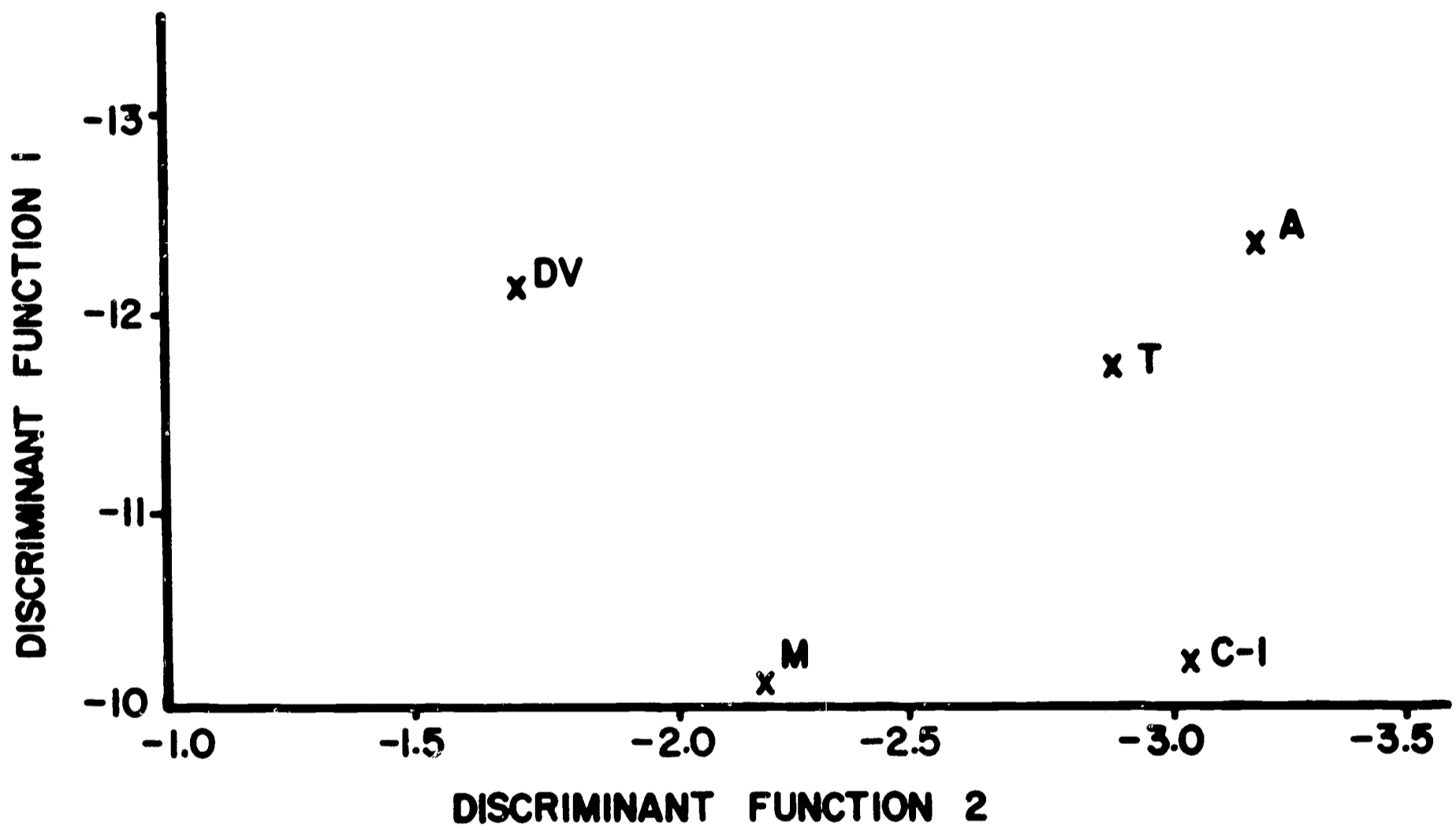


Table 18

Peabody Mean IQ  
Five Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	79.8	12.7	92.5	29.88
Community- Integrated	16	81.4	4.2	85.6	22.44
Montessori	13	84.7	1.5	86.2	21.02
Ameliorative	24	85.0	10.9	95.9	30.41
Direct Verbal	23	82.7	5.7	88.4	24.26

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	M	C-I	DV	T	A
	21.02	22.44	24.26	29.88	30.41

Differences

M	1.42	3.24	8.86	9.39
C-I		1.82	7.44	7.97
DV			5.62	6.15
T				.53
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	7.58	9.12	10.01	10.52

$\frac{1}{MS}$  within/harmonic mean = 2.699

\*Significant difference at .05 level

Summary: Although the univariate F was significant, there were no significant differences among groups.

consequently, are not available for the Montessori and Community-Integrated groups or the Direct Verbal class unit of the second year. Frostig (1964) suggests that children scoring in the lowest quartile (a perceptual quotient of 90 or below) will experience difficulty in school adjustment and recommends remedial training for these children. The test-one scores of 96% of the children in the Traditional program, 75% of the children in the Ameliorative program, and 91% of the children in the first year's Direct Verbal class unit fell in the lowest quartile. It is reasonable to assume that the Montessori and Community-Integrated groups and the second Direct Verbal class unit would have included similar percentages of children in this low range.<sup>7</sup> To the extent that visual perceptual inadequacies are related to subsequent school difficulty, these initial performances were disconcerting.

The Frostig was given to all groups at the time of the second test battery. The performance of the Ameliorative group was significantly higher than that of the other four groups (Table 19). Only 21% of the children in the Ameliorative group now scored in the lowest quartile. In the Direct Verbal group 43% scored in the lowest quartile while 76 to 81% of the children in the other three groups obtained such scores.

The visual-motor activities included in the Traditional and Community-Integrated programs were relatively unstructured and global in nature (playground activities, art projects, puzzles), and most of the children in these two programs scored in the lowest quartile. The children in the Montessori group did not do well on this test in spite of the emphasis given to rather precise motor-sensory activity (templates, form boxes, kinesthetic alphabet, sensory materials related to shape, weight, and size). Although the Direct Verbal program emphasized an oral mode of instruction, elements in the reading and mathematics curricula (particularly the writing of letters and numerals) involved visual-motor participation and seemed to have been effective in promoting growth in this area. All three curricula in the Ameliorative program included learning activities designed to contribute to the development of visual perceptual skills: the unit on geometric shapes in the mathematics curriculum, a sequence of cutting lessons, dot-to-dot exercises in a large, uncluttered format, matching exercises, pasting exercises which emphasized figure-ground, and pencil/crayon work in general. Frostig remedial materials were used during the last six weeks of the program. The performance of the Ameliorative group indicates the dramatic progress which may be made in visual perceptual development by disadvantaged children.

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<sup>7</sup>The percentages of children initially scoring in the lowest quartile in four subsequent research class units established according to the procedures outlined in this report ranged from 81 to 88 and were consistent with the scores of the Traditional, Ameliorative, and Direct Verbal groups.

Table 19  
Frostig Mean PQ  
Five Groups at the End of One Year

Group	N	Test 2	Covaried Mean
Traditional	25	84.9	25.56
Community-Integrated	16	80.4	21.54
Montessori	13	79.8	19.86
Ameliorative	24	99.6	38.96
Direct Verbal	23	90.3	30.44

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	M	C-I	T	DV	A
	19.86	21.54	25.56	30.44	38.96

Differences

M	1.68	5.70	10.58*	19.10*
C-I		4.02	8.90*	17.42*
T			4.88	13.40*
DV				8.52*

Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	7.29	8.77	9.62	10.22

$\frac{1}{MS}$  within/harmonic mean = 2.594

\*Significant difference at .05 level

- Summary:**
1. The Ameliorative group was significantly higher than the other four groups.
  2. The Direct Verbal group was significantly higher than the Community-Integrated and Montessori groups but not significantly higher than the Traditional group.
  3. The Traditional, Community-Integrated, and Montessori groups were not significantly different from each other.

## School Readiness

The Metropolitan Readiness Tests were given to the five groups at the time of the second test battery. There were no significant differences among groups on the Reading Readiness Test (Table 20). The Ameliorative and Direct Verbal groups scored significantly higher on the Number Readiness Test than did the Traditional and Montessori groups (Table 21). The superior performance of the two structured groups reflects their highly specific mathematics curricula and suggests the effectiveness of these programs in preparing children for more formal mathematics. The predictive value of this instrument is limited when administered to children at this age, and the data obtained at the end of the second year of the study provide a more appropriate base for discussion.

## Summary of Results at the End of the Preschool Year

The children in the two highly structured programs (Ameliorative and Direct Verbal) showed substantial gains in intellectual functioning (Binet IQ) with remarkable consistency. No child in either program failed to make an IQ gain. On test two 92% of the children in the Ameliorative group and 74% of the children in the Direct Verbal group fell in the high intelligence strata. The children in the other three groups made more modest gains and from 15 to 24% of these children regressed.

On the initial assessment of language development (ITPA) the children in this study were most deficit in verbal expressive abilities. The major initial deficit of the Ameliorative group was eliminated on each of the three subtests related to this area. The Direct Verbal group eliminated its major deficit on two of these three subtests. The Traditional group did relatively well in this area. The performances of the Community-Integrated and Montessori groups on these three subtests were static at best, and their substantial deficits remained at the time of test two.

The magnitude of the gains of the Ameliorative group on the nine subtests of the ITPA and the consistency with which it made these gains resulted in an essentially nondeficit test-two performance. The Traditional group made consistent but more modest gains and had no major deficits (deficits in excess of 6 months) at the time of test two. The Direct Verbal group made somewhat larger gains than the Traditional group but made these gains somewhat less consistently and had major deficits on two subtests at test two. The Community-Integrated and Montessori groups generally made smaller and less consistent gains than the other three groups. The movement of the Montessori group was somewhat regressive while that of the Community-Integrated group was more nearly static.

There were no significant differences among the five groups in vocabulary comprehension as measured by the Peabody Picture

Table 20

**Metropolitan Reading Readiness Mean Raw Score  
Five Groups at the End of One Year**

Group	N	Test 2	Covaried Mean
Traditional	25	36.6	-12.97
Community-Integrated	16	38.1	-11.36
Montessori	13	40.8	- 9.97
Ameliorative	24	40.6	-10.47
Direct Verbal	23	37.1	-13.19

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 21

**Metropolitan Number Readiness Mean Raw Score  
Five Groups at the End of One Year**

Group	N	Test 2	Covaried Mean
Traditional	25	5.9	-19.22
Community-Integrated	16	7.4	-17.61
Montessori	13	5.3	-20.25
Ameliorative	24	10.8	-15.02
Direct Verbal	23	10.3	-15.14

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	M	T	C-I	DV	A
	-20.25	-19.22	-17.61	-15.14	-15.02

Differences

M	1.03	2.64	5.11*	5.23*
T		1.61	4.08*	4.20*
C-I			2.47	2.59
DV				.12
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	2.32	2.79	3.06	3.25

$\sqrt{MS}$  within/harmonic mean = .826

\*Significant difference at .05 level

- Summary:
1. The Ameliorative and Direct Verbal groups, which did not differ significantly from each other, were significantly higher than the Montessori and Traditional groups but not significantly higher than the Community-Integrated group.
  2. The Community-Integrated, Montessori, and Traditional groups did not differ significantly from each other.

Vocabulary Test. The performance of the Ameliorative group in visual perception (Frostig) was significantly higher than those of the other four groups. On test two, over 75% of the children in the Traditional, Montessori, and Community-Integrated groups earned scores indicating a need for remediation; in the Direct Verbal group 43% of the children earned such scores. Only 21% of the children in the Ameliorative group scored at this low level. An assessment of school readiness (Metropolitan) indicated the statistical superiority of the Ameliorative and Direct Verbal groups in number readiness only.

#### CONCLUSIONS AT THE END OF THE PRESCHOOL YEAR

Since the five intervention programs were chosen to represent points along a continuum of structure, one might assume that the results would order themselves along this continuum to the extent that structure is a valid dimension in effecting change. A reasonable assumption might have been that the effects of the two traditionally-oriented programs would be similar, with particular advantage falling to the Community-Integrated group in the area of language development. The results of the highly structured Ameliorative and Direct Verbal programs would place them at the opposite end of the continuum. Finally, the Montessori group would fall somewhere between these two positions, perhaps somewhat closer to the structured groups than to the traditional groups. Such was not the case. The children in the Ameliorative and Direct Verbal programs (high on the structure continuum) generally showed the greatest gains. Those who participated in the Traditional program (low on the structure continuum) showed more modest gains. Children in the Community-Integrated program (also low on the structure continuum) and those who participated in the Montessori program (midway on the structure continuum) showed the least progress.

The failure of the Montessori children to demonstrate appreciable progress seems to invalidate the notion that the level of structure relates to the progress made by the disadvantaged child. The paradox here may be more apparent than real. The Montessori program provided a high degree of structure in terms of careful planning for the kinds of motor-sensory activity appropriate to the development of an adequate base from which language and cognitive skills arise. Such provisions in terms of teacher planning and available materials may be considered comparable to the activities used to elicit verbal responses (the game format) in the Ameliorative program or the pattern drill and sequential learning tasks offered in the Direct Verbal program. The resolution of the paradox may lie in the provisions for verbal interactions in the three programs. In the Ameliorative and Direct Verbal programs children were systematically engaged in verbal interactions with the teacher. In contrast, the absence of such interactions, either as verbal drill or concomitant with performance, characterized the



Montessori classroom. The teacher provided a "prepared environment"; she did not, however, systematically engage the child in verbalizations or require such verbalizations as part of the definition of productive involvement. This failure of the Montessori program resulted, at least during the intervention interval, in somewhat regressive language behavior. Placing disadvantaged children in a setting which does not demand that they use the verbal symbols they have and which rewards behavior which does not require the acquisition of new verbal skills resulted in the poorest language performance of the five intervention groups. Structured emphasis on motor-sensory development without similar concern for verbal development programmatically moves in the wrong direction for the disadvantaged child.

Finally, arbitrary elements in the research design of this study may have inhibited the effectiveness of the Montessori program more than the other four interventions. First, the age criterion used in this study did not coincide with the optimum and earlier age for intervention advocated by Montessori. Second, a program interval of such short duration is inconsistent with the relatively long-term Montessori developmental theory. Third, proponents of Montessori theory might well feel that the establishment of an adequate motor-sensory base, even during so truncated an interval and at so relatively late an age, will enhance language and cognitive development at a time beyond the scope of this report. Follow-up studies of these children may support such a point of view.

The expectation that children in the Community-Integrated group would show progress equal to or greater than that of the children in the Traditional group was not substantiated. The integration of small numbers ( $N = 2$  to  $4$ ) of disadvantaged children into classes of middle- and upper-class children was intended to alter certain aspects of the learning situation. Central to the altered classroom dynamics was the presence of an advantaged-peer language model in addition to the teacher model provided in all programs. Theoretically, spontaneous verbal interactions in both traditional programs represented critical opportunities for language development and were weighted in favor of the Community-Integrated participants.

The disadvantaged children in the Community-Integrated program, however, failed to incorporate the language model of their advantaged peers because they did not reciprocate in verbal interactions at any significant level. They not only failed to interact verbally in peer-initiated play but tended to withdraw from quasi-structured, teacher-directed activities and thus sharply limited the progress they were to make. The homogeneity of the Traditional group, on the other hand, required these children to respond verbally during such activities. Their teachers necessarily accommodated these activities to the verbal level of the children

and gradually developed more acceptable and extended responses. The progress in verbal expressive ability made by the children in the Traditional program reflects this accommodation.

The failure of socioeconomic integration in this instance cannot be viewed as evidence that disadvantaged children do not derive benefits from integration with their advantaged peers. The ratio of socioeconomic integration used in this study failed to accelerate the language development of the disadvantaged children, and it is altogether possible that this ratio mitigated against change. A more nearly equitable ratio between the two socioeconomic groups might have created a setting in which the disadvantaged children participated more freely and were involved in verbal interactions more frequently. Then, too, it is possible that the impact of a peer language model cannot be felt during so short an interval. Finally, four may not be the most appropriate age for deriving maximum benefits from a peer language model.

The very real progress made by the children in the Traditional program must be viewed against the generally superior performance of the children in the two highly structured programs. The effectiveness of directly teaching specific content was illustrated by the superior performance of the Ameliorative and Direct Verbal groups on the number readiness test of the Metropolitan. The magnitude and consistency of their gains in intellectual functioning (Binet IQ) clearly endorse the importance of providing a setting in which the child is required to make appropriate and increasingly complex verbalizations. There is some evidence that obtaining these verbalizations in conjunction with productive, manipulative experiences (Ameliorative program) more effectively developed visual perceptual skills (Frostig) as well as the visual-motor skills involved in certain ITPA subtests (Visual Decoding, Visual-Motor Sequencing, and Motor Encoding). In addition, children who made verbal responses concurrent with meaningful, manipulative experiences more effectively incorporated syntactical constructs into their verbal repertoire (Auditory-Vocal Automatic subtest). On the other hand, verbal pattern drills (Direct Verbal program) provided unique opportunities to develop the auditory reception of structured aspects of language (Auditory-Vocal Association and Auditory Decoding subtests).

## THE SECOND YEAR OF THE STUDY

### Interventions during the Kindergarten Year

During their second year in the study the children in the Traditional, Community-Integrated, Montessori, and Ameliorative programs attended public kindergarten for a half day. No research intervention was made in the public kindergarten. The children in the Ameliorative program, with parental permission and through arrangement with public school administrators, attended public kindergarten in the morning and, in addition, participated in a one-hour supportive program at the research center in the afternoon. According to the research design, children in the Direct Verbal program were not to attend public kindergarten and were to return to the research center for a half-day program. At parental insistence or teacher suggestion, however, five of the twenty-three children attended public school kindergarten in the morning and the Direct Verbal program in the afternoon.

To facilitate bussing, the children in the Ameliorative supportive program were divided on the basis of residential area into two classes of twelve children each. One class attended the supportive program from 1:00 to 2:00 p.m.; the other, from 2:15 to 3:15. Each of these classes was further divided into two learning groups on the basis of individual performance on battery-two tests and recommendation of the preschool teachers from the previous year. In general, the high group (N = 6) in both the one and two o'clock classes was considered ready for pre-reading activities and competent in the number concepts taught the previous year, including rational counting to ten. They were judged capable of following routine directions and able to work independently for relatively sustained periods. The children in the low group (N = 6) in each class were considered less ready for both reading and math materials in any formal sense and less able to work independently in a sustained and orderly fashion. Two elementary school teachers were in charge of the supportive program; one taught the high group in each class and the other taught the low group.

The one-hour supportive session was divided into two periods-- language development/reading readiness and mathematics concepts. This schedule was broken for an occasional field trip or art project, but art, music, and indoor-outdoor play generally were not scheduled. An effort was made to avoid repeating activities which had already been provided in the morning public kindergarten and to emphasize activities directly related to first-grade academic success. During the reading readiness/language period, teachers continued to use multiple copies of inexpensive books in a story-time similar to that of the previous year's Ameliorative preschool program. Related activities stressed specific vocabulary, sequential and causal relationships, and immediate and long-term recall. The letters of the alphabet were taught by name, and all children

mastered the printing of their names and of a good portion of the alphabet. Initial consonant sounds and rhyming words were stressed. Selected materials from the Frostig Program for the Development of Visual Perception were used as were portions of standard phonics workbooks and experience charts. All children mastered some sight words, and the children in the high group were reading at a pre-primer level in the spring; however, an intensive reading program was not begun with either group.

During the math period manipulative materials were used in a manner similar to that employed in the Ameliorative preschool to present equivalent and non-equivalent sets and global terms such as more, less, and same as. The visual recognition of numerals and their printed names and the writing of the numerals were taught. Combinations through five in addition and subtraction were mastered by all children using manipulative materials; most of the children in the high group and some of the children in the low group were able to handle these combinations without concrete aids and to perform the operations at the blackboard or with pencil and paper.

Because the test-two performance of the Ameliorative group on all ITPA subtests had been essentially nondeficit, the major orientation of the supportive program was toward school readiness rather than language development. Since these children had demonstrated competence in visual perceptual skills (Frostig) and a mean Binet IQ substantially above 100 (only two children scored below 100) and because they were approaching an age appropriate to more specific academic endeavors, this shift in program emphasis seemed reasonable.

The Direct Verbal program in the second year of the study offered an extension of the first year's curriculum. The children were grouped by ability for twenty-five minute instructional periods in reading, arithmetic, and language. The opening activity for the afternoon was writing practice which consisted of a series of programmed writing sheets developed in conjunction with the arithmetic and reading curricula. The first instructional period was followed by a break for juice and toileting; the second, by a period of art and stories; and the third, by music and games.

The language program included concepts of measure (time, distance, temperature), the formal use of many function words (same, different, if, then, or, each, only, all, some), the vocabulary engendered by a study of the part-whole relationship of over 100 objects, and the names of the major orchestral and band instruments. A series of stories was developed to acquaint children with concepts not easily demonstrated in the classroom. The language period also included science (geographical characteristics and aspects of the solar system) and social studies (forty job descriptions and their related terms).

A highly systematized reading method was developed by the Direct Verbal staff who considered disadvantaged children to lack necessary reading sub-skills. These sub-skills were carefully and sequentially taught and included blending, rhyming, visual discrimination, left-to-right orientation and sequencing. The children were taught to recognize symbols as sounds and to combine these sounds, using the sub-skills, into words.

In arithmetic the children received further work in the curriculum initiated the first year and no significant alterations were made. They continued to use numbers and symbols to work basic arithmetic problems, learned to solve story problems, and were taught algebraic problems ( $3 + \square = 6$ ,  $\square - 1 = 2$ ,  $3 \times 2 = \square$ ).

## RESULTS AND DISCUSSION AT THE END OF THE KINDERGARTEN YEAR

### Statistical Procedure

At the end of the second year of intervention, statistical comparisons were made between data from batteries one and three, and only inferences can be drawn between data from batteries two and three. Statistical treatment of the total battery data (Binet, ITPA total, Frostig, and Metropolitan) employed a multivariate analysis of covariance using initial Binet, ITPA total, and Peabody scores as covariates. Since initial Frostig data were not obtained for all groups and since the Metropolitan was not included in battery one, scores from these instruments were not available for use as covariates. A separate multivariate analysis of covariance of ITPA subtest data used the initial scores from the nine subtests as covariates. When multivariate F's were significant, Newman-Keuls tests at the .05 level were conducted in those instances when univariate F's were also significant.

### Total Battery

The F ratio for the multivariate test of equality of mean vectors for the five instruments in the test-three battery was significant at the .0001 level (Table 22). Univariate F's indicated significant differences among the five groups on all five instruments.

### Intellectual Functioning

Clearly the performance of the Direct Verbal group in intellectual functioning was superior to that of the other four groups (Table 23). Only the children in the Direct Verbal group made a substantial gain during the second year, and the other four groups remained relatively unchanged (Figure 6). The percentages of children who fell in the high intelligence strata did not alter

Table 22

Total Battery Multivariate Analysis of Covariance  
Five Groups for Two Years

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F ratio for multivariate test of equality  
of mean vectors = 6.7274

df = 20 and 296                      P less than .0001

---

Variable	Between Mean Square	Univariate F	P less than
Binet IQ	672.7324	8.6032	.0001
Frostig PQ	1134.1157	9.8417	.0001
Metropolitan Reading Readiness Test Raw Score	233.2256	6.7139	.0001
Metropolitan Number Readiness Test Raw Score	251.3392	18.6368	.0001
ITPA Total Language Age Difference Score*	244.9452	5.7205	.0004

---

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates.

\*To relate language age to chronological age, a difference score (in months) was computed by subtracting a child's chronological age at the time of testing from his language age.

Table 23

Stanford-Binet Mean IQ  
Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	94.4	5.6	100.0	-28.23
Community-Integrated	16	93.3	5.9	99.2	-27.62
Montessori	13	93.4	7.4	100.8	-27.85
Ameliorative	24	96.2	12.4	108.6	-21.84
Direct Verbal	23	94.6	19.0	113.6	-15.26

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	M	C-I	A	DV
	-28.23	-27.85	-27.62	-21.84	-15.26

Differences

T	.38	.61	6.39	12.97*
M		.23	6.01	12.59*
C-I			5.78	12.36*
A				6.58*

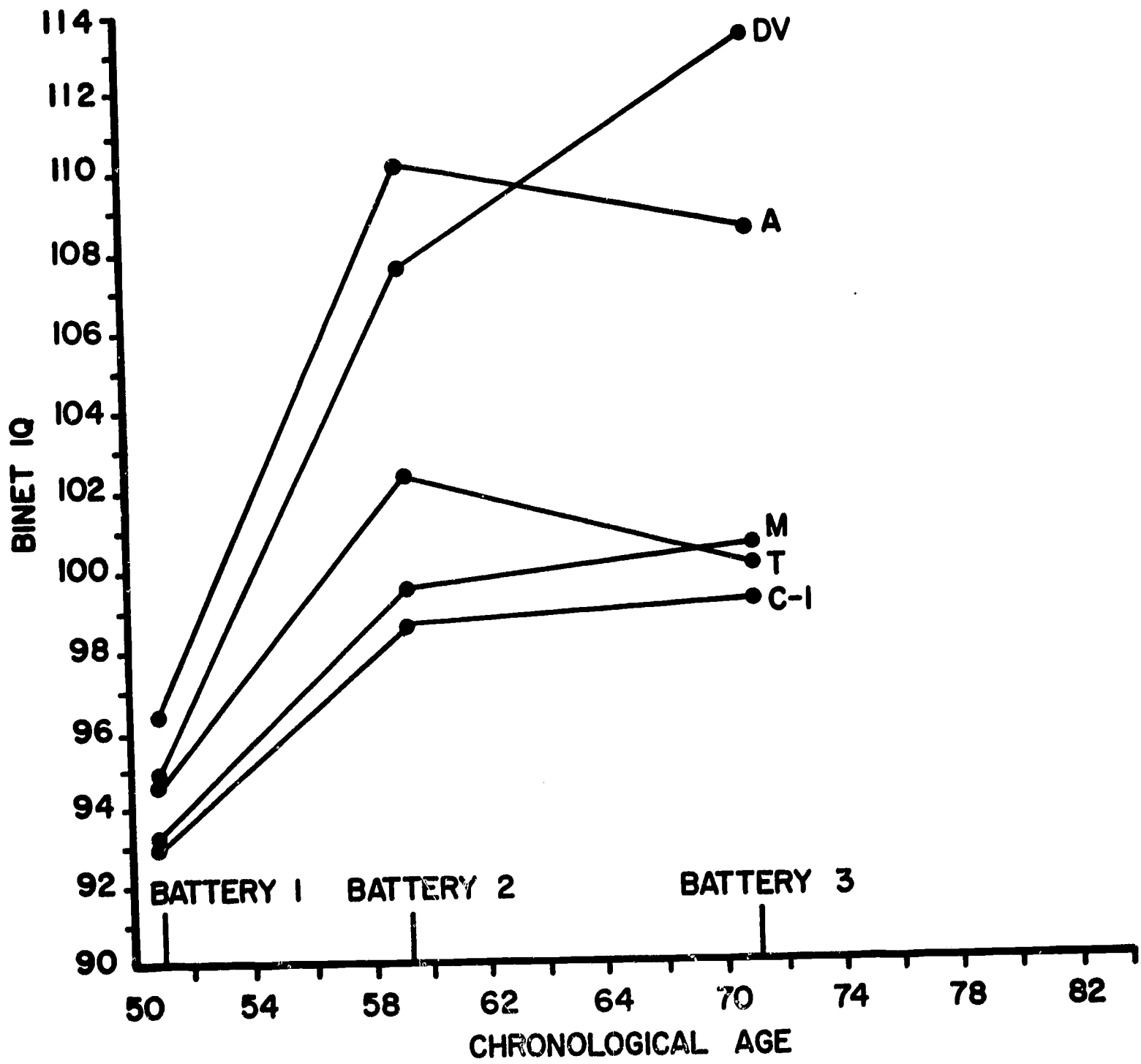
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	5.72	6.88	7.55	8.01

$\sqrt{MS}$  within/harmonic mean = 2.034

\*Significant difference at .05 level

Summary: The Direct Verbal group was significantly higher than the other four groups which did not differ significantly from each other.

FIGURE 6  
 STANFORD BINET IQ  
 FIVE GROUPS FOR TWO YEARS



NOTE: THE TIMES OF THE THREE BATTERIES WERE PLOTTED AT THE MEAN BINET CHRONOLOGICAL AGE OF THE THREE GROUPS.



radically between test two and test three (Table 24). The high

Table 24

High Intelligence Strata  
Five Groups for Two Years

Group	Test One	Test Two	Test Three
T	28%	48%	48%
C-I	38%	31%	50%
M	23%	54%	38%
A	33%	92%	75%
DV	30%	74%	87%

strata percentage in the Traditional group remained unchanged. The relative positions of the Community-Integrated and Montessori group were reversed, with the advantaged now falling to the Community-Integrated group. The Ameliorative and Direct Verbal groups also reversed their positions, with the higher percentage now falling to the Direct Verbal group.

An examination of the distribution of IQ gains between battery one and battery three (Table 25) reveals a pattern similar to the one found at the end of the first year (Table 4). The two structured programs (Ameliorative and Direct Verbal) had substantially fewer children who regressed and again had more children who made gains of ten or more points than the other three groups. The only material changes were a decrease (from 70% to 58%) in the number of children in the Ameliorative program who gained ten or more points and an increase (38% to 47%) in the number of children from the Montessori program who made gains of that magnitude.

The continuing IQ gain of the Direct Verbal group in the second year resulted from continuing gains by the children in the middle (an additional 10 points) and low (an additional 7 points) strata (Table 26). The children in the high stratum of the Direct Verbal group made no additional gain the second year. The gains in each of the three strata for the Community-Integrated and Traditional groups remained essentially unchanged the second year. The children in the high stratum of the Montessori group made no gain in the first year and a slight regression the second. On the other hand, the children in the low stratum of the Montessori group made a substantial gain of 12 points the first year and increased that gain to 17 points during their year in public kindergarten. These gains suggest that the Montessori program was highly effective in establishing improved intellectual functioning with children who had initially indicated limited potential. The relatively large mean gain (approximately 13 points over the two-year period) of the Ameliorative group was rather consistently achieved by each strata each year.

Table 25

Distribution of IQ Gains  
by Intervention  
Batteries 1-3

Gain in IQ Points	Group									
	Traditional N=25		Community- Integrated N=16		Montessori N=13		Ameliorative N=24		Direct Verbal N=23	
	%	N	%	N	%	N	%	N	%	N
40 to 44	0	0	0	0	0	0	0	0	4	1
35 to 39	0	0	0	0	0	0	4	1	0	0
30 to 34	0	0	6	1	0	0	0	0	9	2
25 to 29	0	0	0	0	0	0	4	1	17	4
20 to 24	4	1	0	0	8	1	17	4	22	5
15 to 19	16	4	6	1	31	4	12	3	17	4
10 to 14	20	5	12	2	8	1	21	5	17	4
5 to 9	20	5	31	5	15	2	25	6	9	2
0 to 4	16	4	19	3	23	3	12	3	0	0
-1 to -5	12	3	12	2	8	1	0	0	0	0
-6 to -10	4	1	12	2	0	0	4	1	4	1
-11 to -15	8	2	0	0	8	1	0	0	0	0

NOTE: IQ gains (test 1-3) by race-sex categories are found in appendix B.

Table 26

Stanford-Binet IQ Gains by Strata  
Five Groups for Two Years

		N	Mean Binet IQ Gain	
			Test 1-2 Diff.	Test 1-3 Diff.
High Strata	T	7	6.3	4.1
	C-I	6	3.3	4.8
	M	3	0.0	- 2.7
	A	8	9.9	10.8
	DV	7	12.9	13.0
Middle Strata	T	10	8.9	5.1
	C-I	5	4.4	8.0
	M	6	5.7	5.8
	A	9	15.7	12.0
	DV	8	10.5	20.2
Low Strata	T	8	9.0	7.4
	C-I	5	8.0	5.0
	M	4	12.5	17.2
	A	7	16.0	14.7
	DV	8	15.8	23.0

The four groups that attended public kindergarten the second year basically maintained the gains in intellectual functioning made during the first year, and losses or additional gains did not exceed 3 points. Although the supportive program for the Ameliorative group was unsuccessful in fostering further IQ gains, it may have been responsible for maintaining the relatively large gain of this group. Since the first-year gain of the Ameliorative group was considerably larger than the gains of the other three groups who attended public kindergarten, a substantial regression might have occurred had these children attended public kindergarten only.<sup>8</sup> The continuing gains demonstrated only by the Direct Verbal group are a clear endorsement for sustained special programming for disadvantaged children.

<sup>8</sup>Further information on this topic can be found in the report which follows, "A Follow-Up of Three of the Five Preschool Interventions: Evaluations over Three Years."

## Language Development

The F ratio for the multivariate test of equality of mean vectors for the nine ITPA subtests was significant at the .0099 level (Table 27). Univariate F's indicated significant differences among the five groups on four subtests (Auditory-Vocal Automatic, Auditory-Vocal Association, Visual-Motor Association, and Auditory Decoding). The subtest data will again be presented according to magnitude of initial deficit.

The three subtests in which the disadvantaged children of this study were initially most deficit reflected verbal expressive abilities and are critical to program evaluation. There were no significant differences at test three among the five groups on the Vocal Encoding test (Table 28). The Direct Verbal group showed the largest gain (10 months in excess of the test interval) between test one and test three and was at the end of the kindergarten year the only nondeficit group. Figure 7 illustrates the unique performance of this group: Only the Direct Verbal group made continued progress over the two-year period. The Community-Integrated and Montessori groups had regressed during the preschool year and regained this loss during their year in kindergarten. Their major deficit in Vocal Encoding at test three closely approximated their initial deficit. The Traditional and Ameliorative groups made good progress during the preschool year but showed a regression during the kindergarten year which did not, however, reach the level of their initial deficit.

On the Auditory-Vocal Automatic test the Direct Verbal group again showed the largest gain (12 months) between test one and test three and was at the end of the kindergarten year the only nondeficit group (Table 29). The Direct Verbal group was significantly higher than the Community-Integrated group only. The Direct Verbal group made the major portion of its progress during the second year of its program (Figure 8). The Community-Integrated group made no progress on this test in either year, and its substantial initial deficit (14 months) remained. The Montessori group, however, which had doubled its deficit during the preschool year more than regained this loss during the kindergarten year. The Traditional group made modest progress on this subtest during the preschool year but regressed to its initial level of deficit at the end of the kindergarten year. The Ameliorative group had made exceptional progress the first year (12 months above the program interval) and was the only group which scored at its chronological age at test two, but during the kindergarten year this group regressed substantially (7 months).

The Direct Verbal group was significantly higher at test three than the other four groups on the Auditory-Vocal Association test (Table 30). Although the Direct Verbal program most effectively accelerated progress on this subtest, all programs were productive

Table 27

ITPA Subtest Multivariate Analysis of Covariance  
Five Groups for Two Years

---

F ratio for multivariate test of equality  
of mean vectors = 1.6973

df = 36 and 298                      P less than .0099

---

Variable	Between Mean Square	Univariate F	P less than
Auditory-Vocal Automatic	552.2430	2.7736	.0320
Visual Decoding	29.6562	.1311	.9707
Motor Encoding	346.3826	1.3200	.2689
Auditory-Vocal Association	464.2582	4.5872	.0
Visual-Motor Sequencing	194.2008	1.6933	.1589
Vocal Encoding	374.7263	1.9541	.1087
Auditory-Vocal Sequencing	208.3261	1.0602	.3812
Visual-Motor Association	1009.5236	4.6067	.0021
Auditory Decoding	1101.4144	4.8073	.0015

---

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

Table 28

Vocal Encoding Test  
 Mean Language Age Difference Score in Months  
 Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-15.1	6.8	- 8.3	28.63
Community- Integrated	16	- 8.2	1.6	- 6.6	32.31
Montessori	13	-12.6	.9	-11.7	25.21
Ameliorative	24	-14.7	4.0	-10.7	26.61
Direct Verbal	23	-11.3	9.9	- 1.4	36.57

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

FIGURE 7  
 VOCAL ENCODING DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS

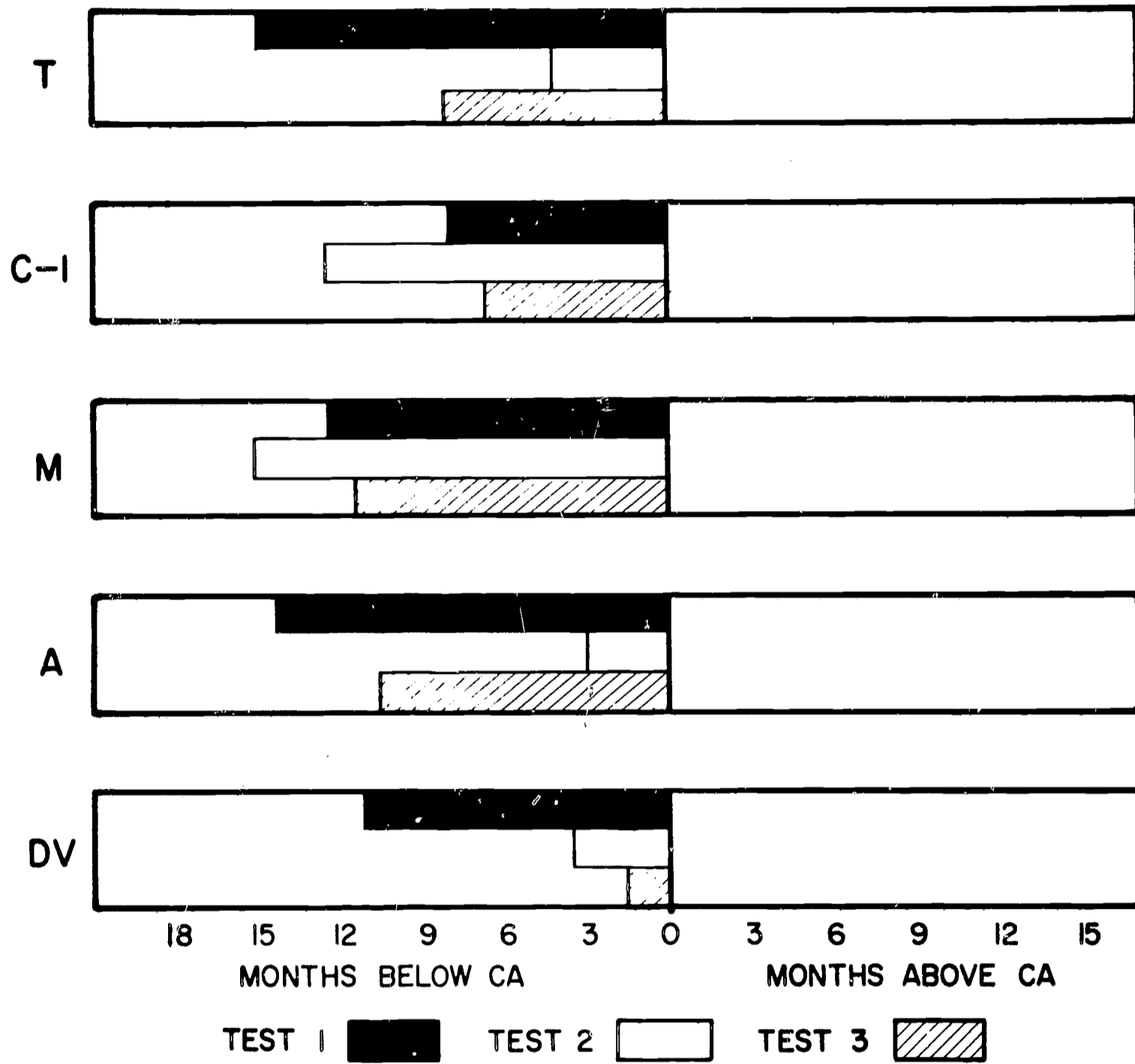


Table 29

Auditory-Vocal Automatic Test  
Mean Language Age Difference Score in Months  
Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	- 8.4	- .8	- 9.2	-50.38
Community- Integrated	16	-14.1	- .6	-14.7	-56.16
Montessori	13	- 9.6	2.0	- 7.6	-50.66
Ameliorative	24	-12.1	5.5	- 6.6	-47.83
Direct Verbal	23	-11.7	12.2	.5	-41.28

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	C-I	M	T	A	DV
	- 56.16	-50.66	-50.38	-47.83	-41.28

Differences

C-I		5.50	5.78	8.33	14.88*
M			.28	2.83	9.38
T				2.55	9.10
A					6.55
Table Value		2.81	3.38	3.71	3.94
Corrected Table Value		9.12	10.97	12.04	12.79

$\sqrt{MS}$   
within/harmonic mean = 3.246

\*Significant difference at .05 level

Summary: The Direct Verbal was significantly higher than the Community-Integrated group only.



FIGURE 8  
 AUDITORY-VOCAL AUTOMATIC DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS

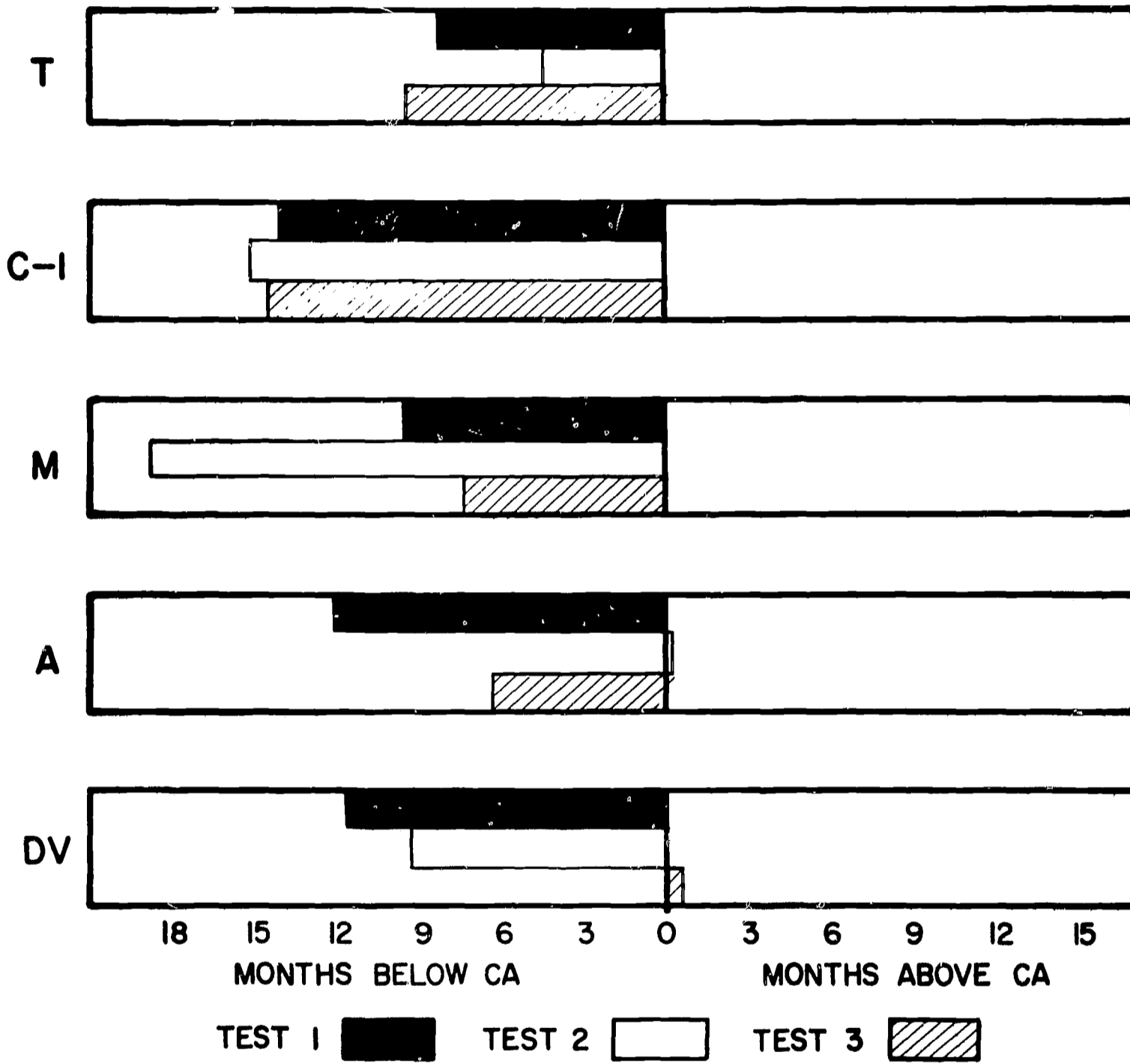


Table 30

Auditory-Vocal Association Test  
Mean Language Age Difference Score in Months  
Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	- 6.1	4.5	- 1.6	- .22
Community- Integrated	16	-11.1	4.9	- 6.2	- .12
Montessori	13	- 8.4	4.8	- 3.6	- .20
Ameliorative	24	- 5.9	8.5	2.6	2.06
Direct Verbal	23	- 9.8	16.8	7.0	10.81

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	M	C-I	A	DV
	- .22	- .20	- .12	2.06	10.81

Differences

T		.02	.10	2.28	11.03*
M			.08	2.26	11.01*
C-I				2.18	10.92*
A					8.75*
Table Value		2.81	3.38	3.71	3.94
Corrected Table Value		6.50	7.82	8.58	9.12

$\frac{1}{MS}$  within/harmonic mean = 2.314

\*Significant difference at .05 level

Summary: The Direct Verbal group was significantly higher than the other four groups which did not differ significantly from each other.

over the two-year period (Figure 9). This was the only subtest on which all groups made continued progress over the two-year period.

Of the three groups who attended only public kindergarten the second year, the Community-Integrated group demonstrated the least change on the three subtests related to verbal expressive abilities. The Traditional group, although it had shown relatively good progress on these three subtests during the preschool year, tended to regress during the kindergarten year. The Montessori group, on the other hand, which had demonstrated a regressive pattern the first year, made substantial gains during the kindergarten year. It may be that the focus of the Montessori program on sensory-motor involvement as the basic mode in which conceptual and linguistic abilities develop provided an appropriate base for subsequent language development in the kindergarten setting. Only the continuing progress of the children in this group can support this position, however, since their test-three deficits in this area approximate their initial deficits.

The regressive performance during the second year of the fourth group who attended public kindergarten (Ameliorative) is particularly distressing since these children also attended the one-hour supportive program. The nondeficit level of performance demonstrated by the Ameliorative group at the end of the preschool year was not maintained, and its test-three performance is not particularly better on these three subtests than those of the three groups who attended public kindergarten only.

The Direct Verbal group was the only group that showed continued and appreciable progress over the two-year period and was at or above its chronological age on the three subtests related to verbal expressive abilities. These results, together with the results on intellectual functioning, may be an indictment of public school programming for disadvantaged children but are clearly an endorsement of continued special programming.

On three ITPA subtests the five groups tended to show relatively smaller initial deficits (3 to 6 months): Motor Encoding, Visual-Motor Sequencing, and Auditory Decoding. The univariate  $F$ 's indicated significant test-three differences among the five groups on only one of these subtests, Auditory Decoding (Table 27).

There were no significant differences among the test-three performances of the five groups on the Motor Encoding test (Table 31), and only the Direct Verbal group made progress during the second year. Although this group had made no progress (a two-month regression) on this test during the first year, it was essentially nondeficit at the end of the second year (Figure 10). The Traditional and Montessori groups experienced relatively small losses during the kindergarten year and remained nondeficit. The performance of the Community-Integrated group was more erratic.

FIGURE 9  
 AUDITORY - VOCAL ASSOCIATION DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS

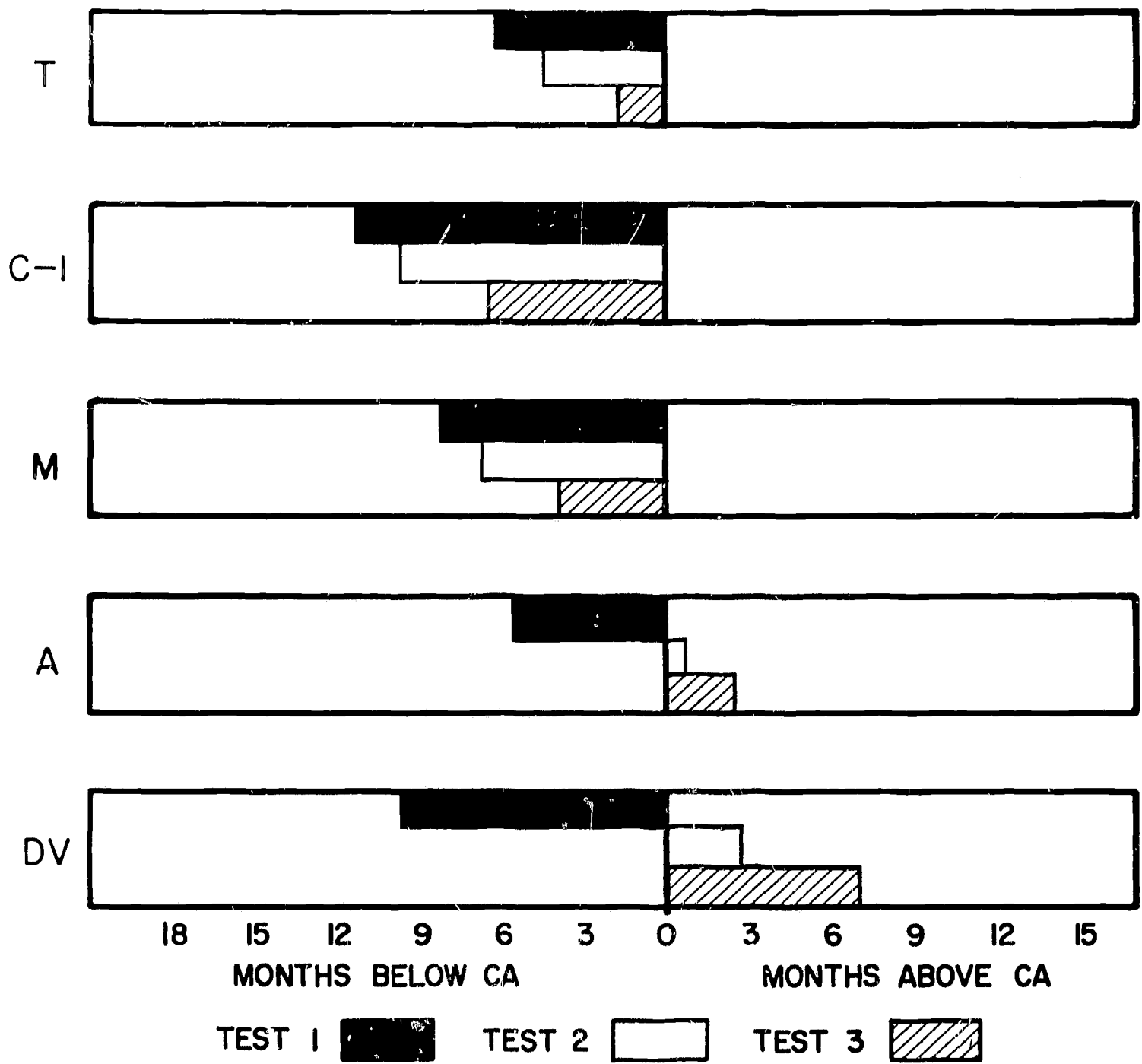


Table 31

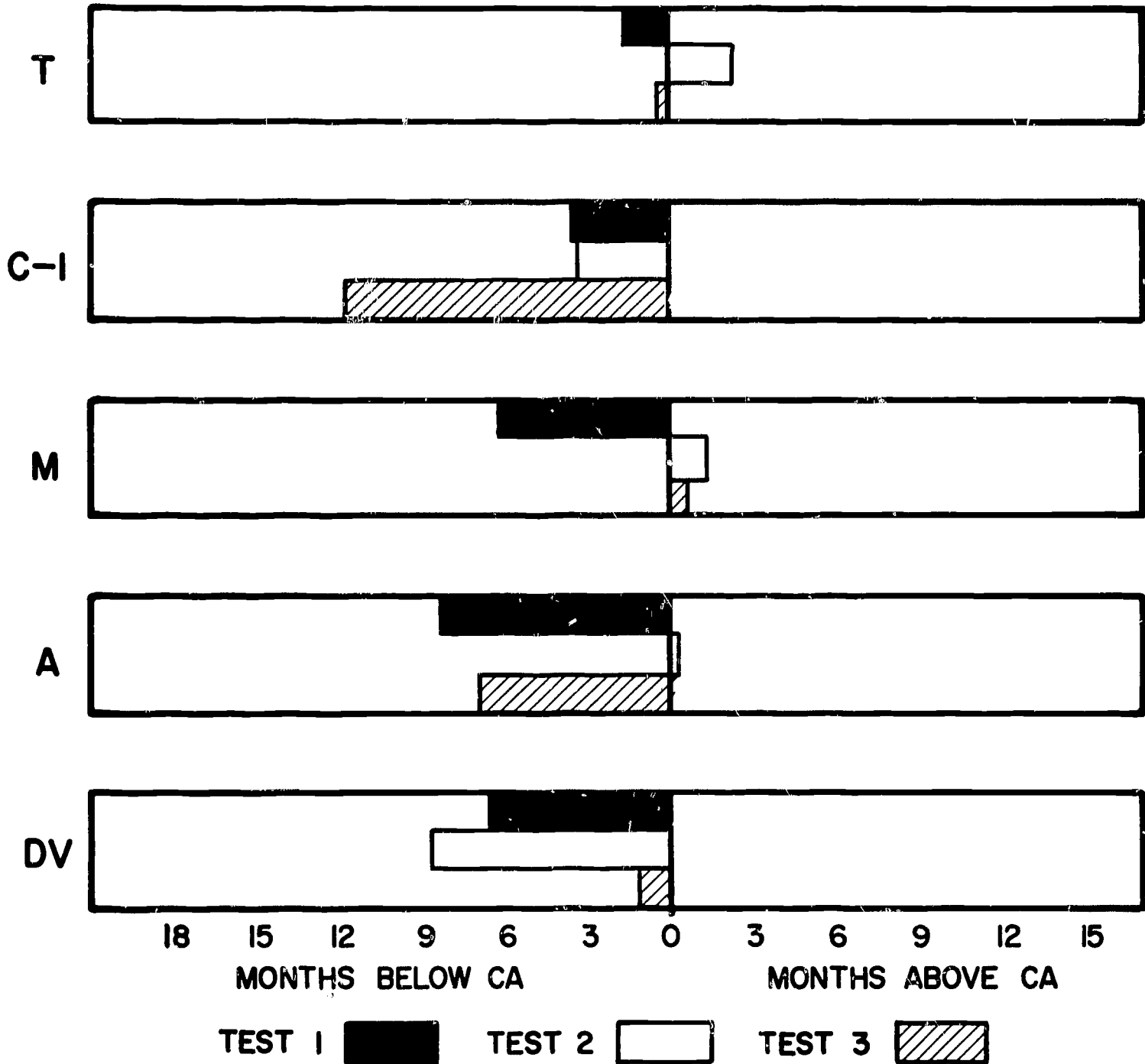
Motor Encoding Test  
 Mean Language Age Difference Score in Months  
 Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-1.6	1.3	- .3	32.45
Community- Integrated	16	-3.7	-8.2	-11.9	28.65
Montessori	13	-6.1	6.7	.6	39.97
Ameliorative	24	-8.2	1.2	- 7.0	34.17
Direct Verbal	23	-6.8	5.0	- 1.8	38.85

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

FIGURE 10  
 MOTOR ENCODING DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS



Initially this group had only a modest deficit (4 months) in Motor Encoding which remained at the end of the preschool intervention. At the end of the kindergarten year, however, this deficit had more than tripled. The gain (8 months) of the Ameliorative group during the preschool year was lost during the kindergarten year. Since two groups (Montessori and Traditional) essentially maintained nondeficit Motor Encoding performances during the kindergarten year and since two groups (Community-Integrated and Ameliorative) showed rather large regressions during this period and since the Direct Verbal group made progress only during the second year of its program, the relation of performance to program seems unclear.

There were no significant differences among the test-three performances of the five groups on the Visual-Motor Sequencing test (Table 32). The Direct Verbal group had a relatively small initial deficit (3 months) and achieved a nondeficit test-three performance through small gains each year (Figure 11). With the exception of Montessori, the other four groups had reached nondeficit levels of performance at the end of the first year but showed regressions of considerable magnitude (5 to 9 months) during the kindergarten year. The Montessori group demonstrated a relatively minor deficit (4 months) at both testings. Large differences among initial deficits inhibited discussion relevant to program variables at the end of the preschool year; however, the four groups began their kindergarten year with rather comparable, nondeficit performances and three groups demonstrated emerging deficits in Visual-Motor Sequencing during that year.

On the Auditory Decoding test the performance of the Direct Verbal group was significantly higher than those of the Traditional, Montessori, and Community-Integrated groups. There was no significant difference between the performances of the Direct Verbal and the Ameliorative groups (Table 33). The Direct Verbal group showed the largest gain (10 months) between test one and three and was the only group to make continued progress the second year (Figure 12). The three groups who attended only public kindergarten (Traditional, Montessori, and Community-Integrated) made relatively large regressions (5 to 14 months) during the kindergarten year and fell from a nondeficit test-two performance to a level of deficit which equaled or exceeded their initial deficit. This regression was particularly acute for the Community-Integrated group. Combined attendance at the public kindergarten and the supportive program may be responsible for the relatively stable performance of the Ameliorative group which remained nondeficit. The teacher could immediately monitor the child's auditory comprehension during small group instruction in the Direct Verbal and Ameliorative supportive programs. In a large class setting the kindergarten teacher is able to monitor individual listening habits less frequently.

Table 32

Visual-Motor Sequencing Test  
 Mean Language Age Difference Score in Months  
 Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-10.8	3.3	-7.5	30.42
Community- Integrated	16	- 1.9	-6.9	-8.8	29.30
Montessori	13	.1	-4.0	-3.9	33.49
Ameliorative	24	- 7.7	1.2	-6.5	29.47
Direct Verbal	23	- 3.3	2.4	- .9	36.68

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.



FIGURE II  
 VISUAL-MOTOR SEQUENCING DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS

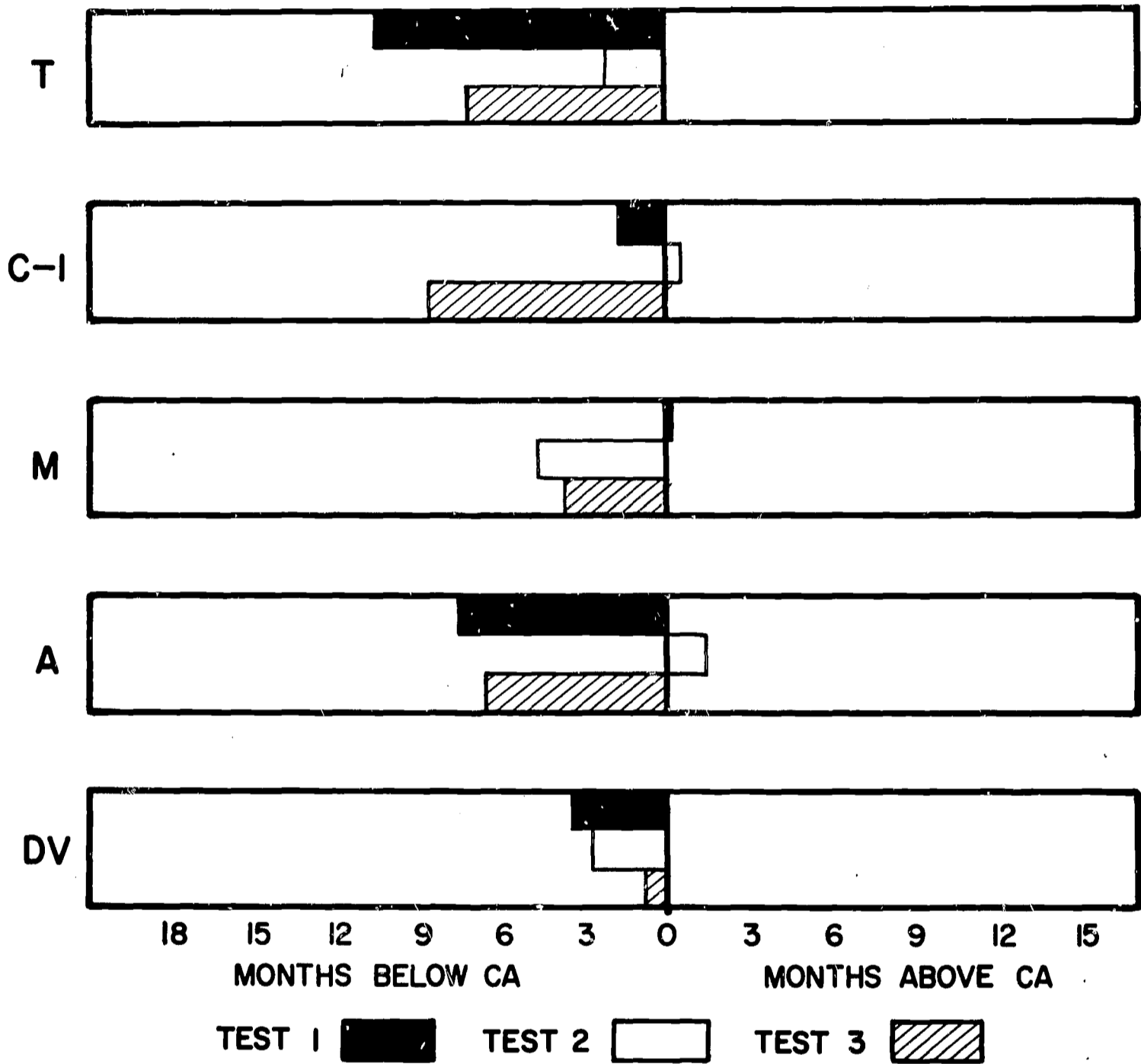


Table 33

Auditory Decoding Test  
 Mean Language Age Difference Score in Months  
 Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-4.5	.9	- 3.6	29.38
Community- Integrated	16	-5.9	- 7.7	-13.6	22.65
Montessori	13	-1.0	- 5.4	- 6.4	26.30
Ameliorative	24	2.0	- 2.0	.0	33.74
Direct Verbal	23	-2.1	10.3	8.2	42.44

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	C-I	M	T	A	DV
	22.65	26.30	29.38	33.74	42.44

Differences

C-I	3.65	6.73	11.09	19.79*
M		3.08	7.44	16.14*
T			4.36	13.06*
A				8.70

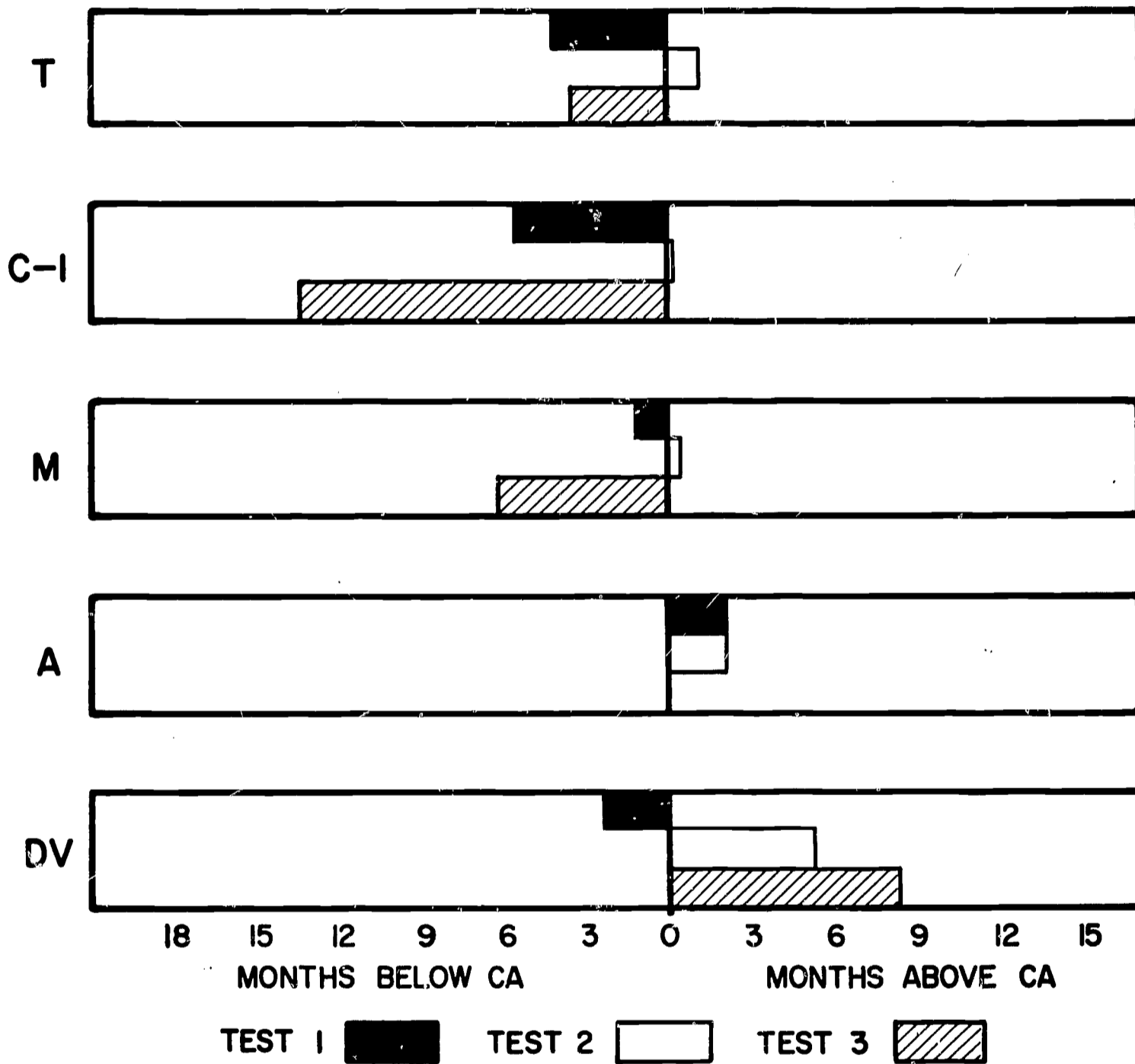
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	9.78	11.77	12.92	13.72

$\sqrt{MS}$   
 within/harmonic mean = 3.482

\*Significant difference at .05 level

**Summary:** The Direct Verbal group was significantly higher than the Traditional, Montessori, and Community-Integrated groups but not significantly higher than the Ameliorative group.

FIGURE 12  
 AUDITORY DECODING DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS



On three ITPA subtests the five groups showed negligible or no initial deficits: Auditory-Vocal Sequencing, Visual-Motor Association, and Visual Decoding. The univariate F's indicated significant differences among the groups on only one of these subtests, Visual-Motor Association (Table 27).

There were no significant test-three differences among the five groups on the Auditory-Vocal Sequencing test (Table 34). Initially all groups were performing at their chronological age, and at test three the groups again clustered at their chronological age with the exception of the Community-Integrated group which, slightly enlarged the regression made during the preschool year (Figure 13).

On test three the Ameliorative and Direct Verbal groups were significantly higher than the Traditional and Community-Integrated groups on the Visual-Motor Association test (Table 35). The high score of the Direct Verbal group again represents the largest gain between tests one and three (10 months) and continuing progress during the second year (Figure 14). The similarly high test-three score of the Ameliorative group, however, again reflects the stability of its atypically high initial score, and the small loss merely indicates that this group is approaching the ceiling of this subtest. The performance of the Traditional and Montessori groups remained relatively unaltered over the two years, although the Montessori group made a sizable gain (6 months) the second year while the Traditional group made a small regression. The performance of the Community-Integrated group was again erratic, and the seven-month gain of the first year was followed by a fourteen-month loss the second year.

There were no significant differences among the test-three performances of the five groups on the Visual Decoding test (Table 36). All groups gained the first year and lost the second year (Figure 15). The two groups (Ameliorative and Montessori) which had made the largest gains the first year experienced the most severe losses the second year, and the performances of the five groups at test three closely approximated their chronological ages, as they had at test one.

On the ITPA total the performance of the Direct Verbal group was significantly higher than those of the other four groups (Table 37). Differences between test one and three for these four groups were negligible, and only the Direct Verbal group showed a substantial gain (7 months) between tests one and three on ITPA total. The Direct Verbal group was performing two months above its chronological age on this total score while the deficits of the other groups ranged from two to nine months (Figure 16). The ITPA total, however, obscures variations in group performances, and a meaningful summary requires a restatement of subtest data.

Table 34

Auditory-Vocal Sequencing Test  
 Mean Language Age Difference Score in Months  
 Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covariied Mean
Traditional	25	2.5	-5.4	-2.9	- 6.52
Community- Integrated	16	- .6	-8.0	-8.6	-10.58
Montessori	13	.1	-1.7	-1.6	- 5.57
Ameliorative	24	1.6	- .3	1.3	- 2.10
Direct Verbal	23	3.0	- .2	2.8	- 2.18

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

FIGURE 13  
 AUDITORY-VOCAL SEQUENCING DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS

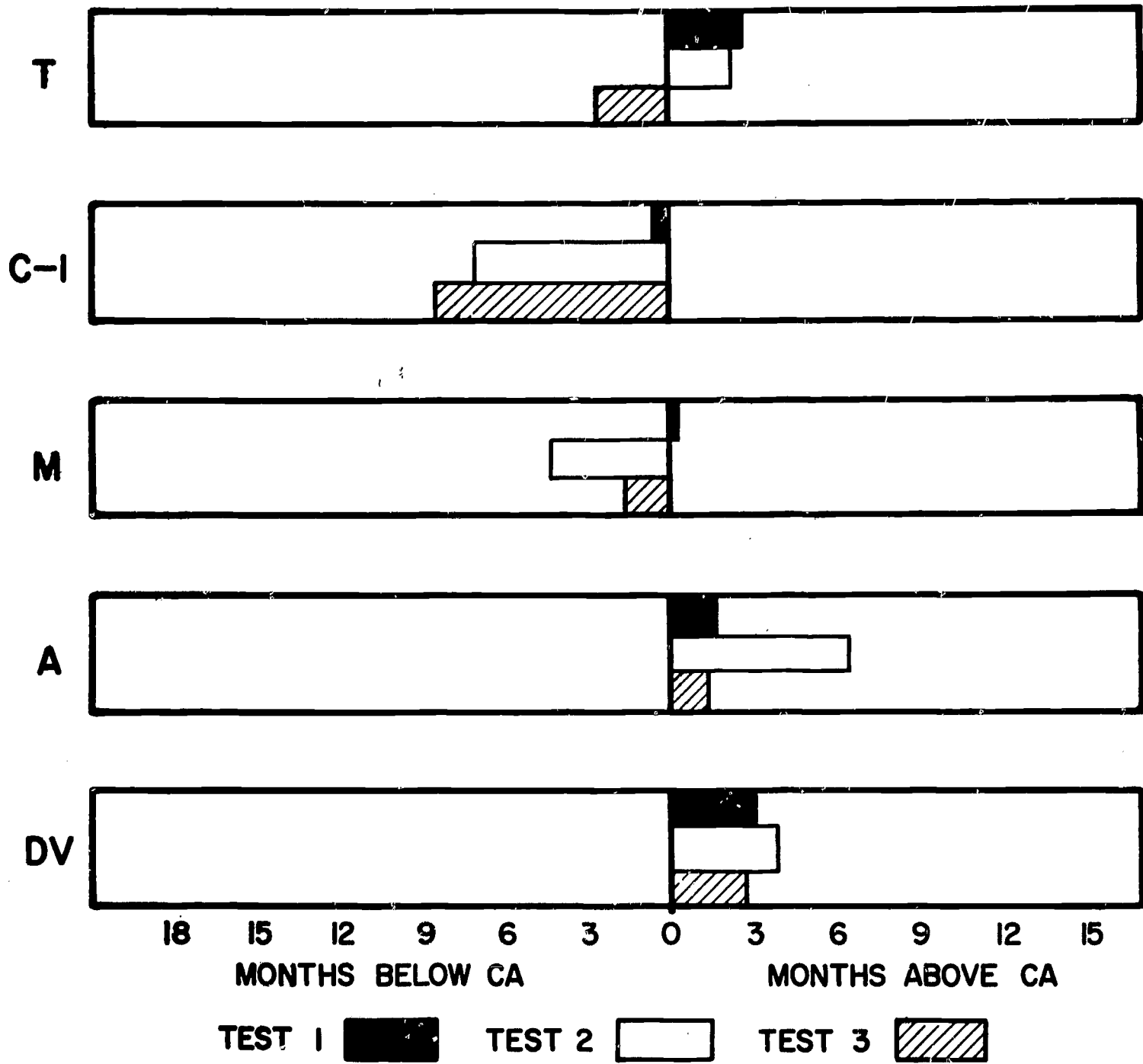


Table 35

Visual-Motor Association Test  
Mean Language Age Difference Score in Months  
Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	- 2.6	-2.2	-4.8	39.54
Community- Integrated	16	- .2	-7.2	-7.4	37.69
Montessori	13	- .8	4.1	3.3	47.23
Ameliorative	24	10.9	-1.7	9.2	53.60
Direct Verbal	23	- 1.6	9.9	8.3	53.36

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	C-I	T	M	DV	A
	37.69	39.54	47.23	53.36	53.60

Differences

C-I	1.85	9.54	15.67*	15.91*
T		7.69	13.82*	14.06*
M			6.13	6.37
DV				.24

Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	9.57	11.51	12.63	13.42

$\sqrt{MS}$   
within/harmonic mean = 3.405

\*Significant difference at .05 level

**Summary:** The Ameliorative and Direct Verbal groups, which did not differ significantly from each other, were significantly higher than the Traditional and Community-Integrated groups but not significantly higher than the Montessori group.

FIGURE 14  
 VISUAL-MOTOR ASSOCIATION DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS

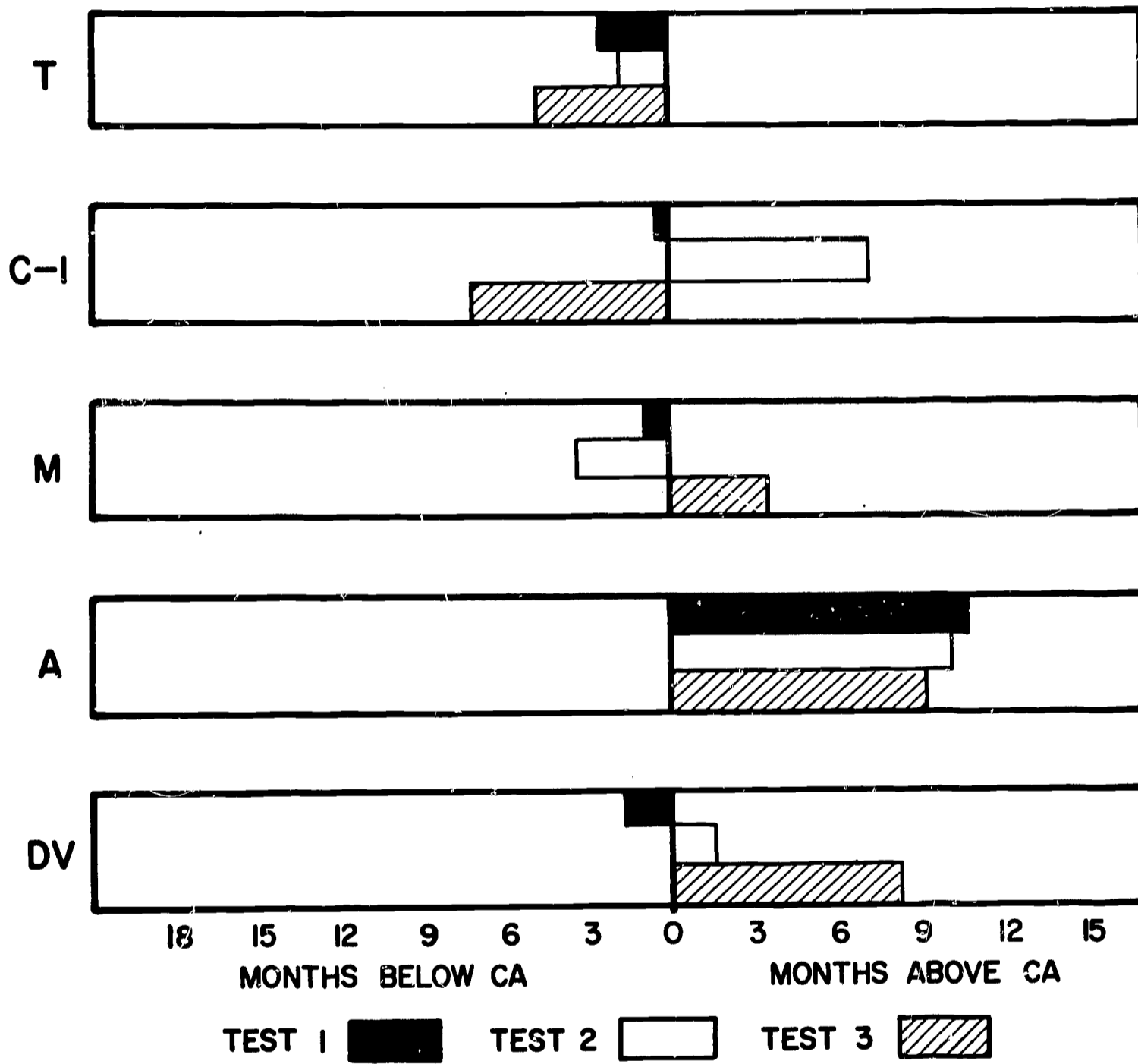




Table 36

Visual Decoding Test  
 Mean Language Age Difference Score in Months  
 Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-1.3	1.2	- .1	-5.64
Community- Integrated	16	-2.8	5.2	2.4	-2.61
Montessori	13	- .4	3.0	2.6	-2.36
Ameliorative	24	- .6	2.9	2.3	-5.05
Direct Verbal	23	- .3	.9	.6	-3.78

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

FIGURE 15  
 VISUAL DECODING DIFFERENCE SCORE MEANS  
 FIVE GROUPS FOR TWO YEARS

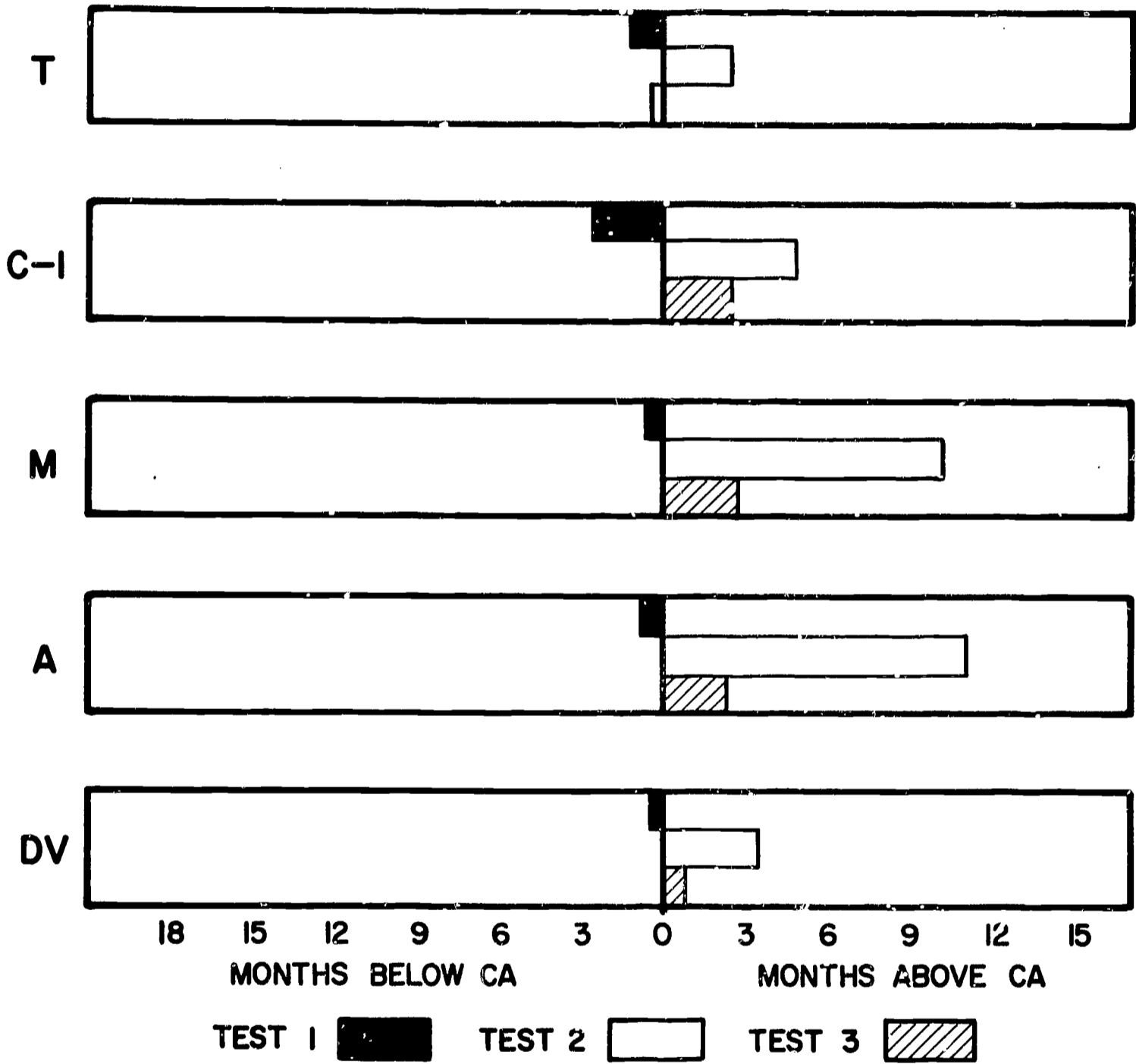


Table 37

ITPA Total  
Mean Language Age Difference Score in Months  
Five Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-5.4	.7	-4.7	17.87
Community- Integrated	16	-6.3	-2.7	-9.0	14.08
Montessori	13	-4.2	- .1	-4.3	17.27
Ameliorative	24	-3.7	1.3	-2.4	18.34
Direct Verbal	23	-4.7	6.7	2.0	23.81

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates.

## NEWMAN-KEULS PROCEDURE

## Covaried Means

Group	C-I	M	T	A	DV
	14.08	17.27	17.87	18.34	23.81

## Differences

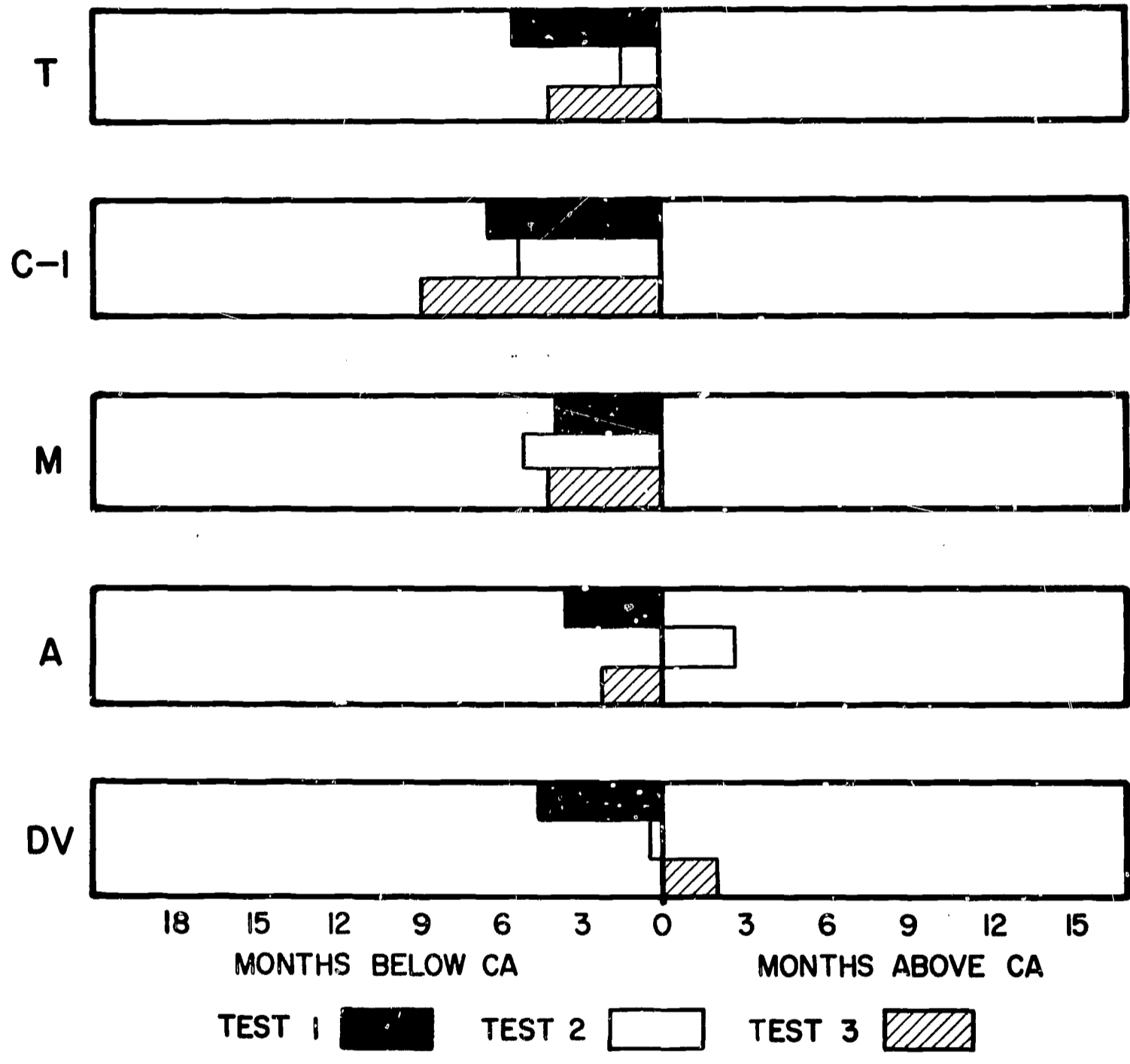
C-I	3.19	3.79	4.26	8.73*
M		.60	1.07	6.54*
T			.47	5.94*
A				5.47*
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	4.23	5.09	5.58	5.93

$\sqrt{MS}$   
within/harmonic mean = 1.505

\*Significant difference at .05 level

Summary: The Direct Verbal group was significantly higher than the other four groups which did not differ significantly from each other.

FIGURE 16  
ITPA TOTAL DIFFERENCE SCORE MEANS  
FIVE GROUPS FOR TWO YEARS



On the three subtests reflecting verbal expressive abilities (the subtests of major initial deficit) the Direct Verbal group made very large gains (10 to 17 months in excess of the interval between tests one and three) which were far in excess of the median change.<sup>9</sup> The gains of the Ameliorative group were more modest but exceeded the median change on each of these three subtests. The other three groups did not perform with this consistency in this critical area. The Traditional group made gains which exceeded four months on two of the three subtests and regressed slightly on the third. The gains of the Montessori group exceeded the median change on only one subtest. The Community-Integrated group made gains which exceeded four months on one subtest and a negligible gain and regression on the other two tests.

Direct Verbal children moved in a positive direction on eight of the nine ITPA subtests. The range of this upward movement was from .9 to 16.8 months and exceeded the median change in six instances. Their one loss was negligible (.2 months). The Ameliorative group moved in a positive direction on six of the nine subtests. The range was from 1.2 to 8.5 months and exceeded 4.0 months in three instances. Its three regressions ranged from .3 to 2.0 months. The Traditional children made gains on six of the nine subtests, ranging from .9 to 6.8 months. In two instances these gains exceeded the median change. One of their three losses which ranged from .8 to 5.4 months exceeded the median. The Montessori group moved in a positive direction on six of the nine subtests. Their gains ranged from .9 to 6.7 months and in three instances exceeded 4.0. On three subtests its losses ranged from 1.7 to 5.4 months, and two of these exceeded the median. The Community-Integrated group made gains (from 1.6 to 5.2 months) on only three of the nine subtests and two of these exceeded 4.0 months. Its six losses ranged from 1.6 to 8.2 months; five were greater than the median change.

Over the two-year period the Direct Verbal group consistently made substantial gains which resulted in a nondeficit test-three performance on all ITPA subtests. This group was, in fact, more than six months above its chronological age on three subtests. The Ameliorative group made no appreciable regressions but its gains were more modest. On five subtests the Ameliorative group was above its chronological age at test three, but four major deficits (6 to 12 months) remained. The gains of the Traditional group were not of sufficient magnitude to result in any test-three performance above chronological age, and three of these deficits were of major proportions. The performance of the Montessori group was somewhat more erratic than that of the Traditional group.

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<sup>9</sup>A gain or loss in excess of 4.0 months was chosen as a descriptive evaluation point since in half of the instances mean language age difference scores for the five groups were altered to that extent.

On three subtests major deficits remained, but on three subtests the Montessori group obtained scores above its chronological age. The first-year pattern of the Montessori group tended to be regressive, but only the Montessori group, of the groups who attended public kindergarten, showed gains the second year. The Community-Integrated group, on the other hand, demonstrated a relatively small gain the first year and suffered sizable regressions the second year. At test three the Community-Integrated group had major deficits on eight subtests, two of which exceeded twelve months.

This relative ranking based on ITPA subtest performance was consistent with the results of the discriminant analysis (Table 38) which indicated a superior performance by the Direct Verbal group followed by that of the Ameliorative group. The Montessori and Traditional groups were similar and represented a mid-point between the highest performance (Direct Verbal) and the lowest (Community-Integrated).

### Visual Perception

The Frostig Developmental Test of Visual Perception was given to the five groups at the time of the second and third batteries. At the time of test three the Traditional group was significantly lower than the other four groups (Table 39). The Traditional group made no progress during the second year while the Montessori and Community-Integrated groups made substantial growth in this area during their year in public kindergarten. The Ameliorative group, which had been significantly superior at test two, showed modest but continued growth. The mean of the Direct Verbal group which had ranked second at test two now closely approximated that of the Ameliorative group.

Frostig (1964) suggests that children whose scores fall in the lowest quartile (a perceptual quotient of 90 or below) will experience difficulty in school adjustment and recommends remedial training for these children. The percentages of children obtaining such scores over the two-year period are presented in Table 40. The number of children in the lowest quartile in the Community-Integrated and Montessori groups was substantially reduced during the kindergarten year. Although the Traditional group had made modest progress during the preschool year, no further reduction was shown the second year. Both structured groups (Direct Verbal and Ameliorative) made substantial and continuing progress over the two-year period. Children in the public kindergarten did indeed make gains in this area; however, the groups which participated in the structured academically-oriented programs had a considerably smaller percentage of children prone to reading failure, to the extent that reading failures are related to visual perceptual inadequacies.

Table 38

Discriminant Analysis  
ITPA Subtests  
Five Groups for Two Years

Variable	Raw coefficient
Auditory-Vocal Automatic	- .005570
Visual Decoding	.022450
Motor Encoding	- .009313
Auditory-Vocal Association	- .044024
Visual-Motor Sequencing	- .022558
Vocal Encoding	.007651
Auditory-Vocal Sequencing	.024279
Visual-Motor Association	- .038839
Auditory-Decoding	- .044969

Percent of Canonical Variation 69.95

Bartlett's Chi Square Test for Significance of Successive Canonical Variates

For roots 1-4 Chi Square = 58.75 with 36 df P less than .0098

Discriminant Function

Traditional	-10.586
Community-Integrated	- 9.371
Montessori	-10.716
Ameliorative	-11.311
Direct Verbal	-11.985



Table 39

Frostig Mean PQ  
Five Groups at the End of Two Years

Group	N	Test 3	Covaried Mean
Traditional	25	82.7	19.30
Community- Integrated	16	93.2	30.73
Montessori	13	92.4	29.39
Ameliorative	24	101.2	37.01
Direct Verbal	23	98.3	33.74

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	M	C-I	DV	A
	19.30	29.39	30.73	33.74	37.01

Differences

T		10.09*	11.43*	14.44*	17.71*
M			1.34	4.35	7.62
C-I				3.01	6.28
DV					3.27
Table Value		2.81	3.38	3.71	3.94
Corrected Table Value		6.94	8.34	9.16	9.73

$\sqrt{MS}$   
within/harmonic mean = 2.469

\*Significant difference at .05 level

**Summary:** The Ameliorative, Direct Verbal, Community-Integrated, and Montessori groups, which did not differ significantly from each other, were significantly higher than the Traditional group.



Table 40

Frostig Perceptual Quotient  
Children in the Lowest Quartile  
Five Groups for Two Years

Group	N	Test 1*	Test 2	Test 3
T	25	96%	76%	76%
C-I	16	--	81%	50%
M	13	--	77%	31%
A	24	75%	21%	12%
DV	23	91%	43%	22%

\*Test 1 data were not available for the Community-Integrated and Montessori groups and for the second class unit of the Direct Verbal group. See Visual Perception first year results, page 90.

### School Readiness

The Metropolitan Readiness Tests were given to the five groups at the time of the second and third test batteries. The reading readiness performance of the Ameliorative group was significantly higher than those of the other groups (Table 41). This result is rather surprising in view of the Direct Verbal group's superiority in intellectual functioning (Binet) and language development (ITPA). The failure of the Direct Verbal group to achieve a performance superior to those of the other groups, especially the three groups who attended public kindergarten only, is puzzling since its curriculum included an intensive two-year reading program. It may be that the techniques used in early reading instruction in the Direct Verbal program did not equip the children for traditional readiness tasks but will prove to have been effective when reading ability is evaluated in elementary school. A major intent of the Ameliorative supportive program had been to prepare children for formal reading instruction, and this focus appropriately developed reading readiness skills as measured by the Metropolitan.

The percentages of children who fell into the five Metropolitan reading readiness categories are presented in Table 42. Only children in the Ameliorative program (38%) achieved a superior reading readiness status, and 67% of the children in this group were rated high normal and above. No child in the other four programs earned a superior rating, and from 15 to 31% of the children in these groups were in the high normal range. Nearly equal percentages of the children in these four groups fell in the high, average, and low ranges. The favorable reading prediction for the large number of children in the Ameliorative program is complemented by the few children who received low-normal ratings, less than one-fourth the percentage of any other group.

Table 41

Metropolitan Reading Readiness Mean Raw Score  
Five Groups at the End of Two Years

Group	N	Test 3	Covaried Mean
Traditional	25	48.4	10.35
Community- Integrated	16	47.2	9.41
Montessori	13	48.6	10.27
Ameliorative	24	56.5	17.51
Direct Verbal	23	50.0	11.58

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	C-I	M	T	DV	A
	9.41	10.27	10.35	11.58	17.51

Differences

C-I	.86	.94	2.17	8.10*
M		.08	1.31	7.24*
T			1.23	7.16*
DV				5.93*

Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	3.81	4.58	5.03	5.34

$\sqrt{MS}$   
within/harmonic mean = 1.356

\*Significant difference at .05 level

Summary: The Ameliorative group was significantly higher than the other four groups which did not differ significantly from each other.

Table 42

**Metropolitan Reading Readiness Status  
Five Groups at the End of Two Years**

Group	Reading Readiness Status				
	Poor Risk	Low Normal	Average	High Normal	Superior
Traditional	0%	36%	36%	28%	0%
Community-Integrated	0%	38%	31%	31%	0%
Montessori	0%	38%	46%	15%	0%
Ameliorative	0%	8%	25%	29%	38%
Direct Verbal	0%	35%	35%	30%	0%

On the Metropolitan Number Readiness Test the Ameliorative and Direct Verbal groups were significantly higher at test three than the other groups (Table 43). The relative positions of the five groups at test three were essentially the same as they had been at test two, and all groups approximately doubled their test-two raw scores during the second year. The percentages of children who fell into the five Metropolitan number readiness categories are presented in Table 44. A substantially higher percentage of the children in the Ameliorative group (83%) achieved a superior number readiness status; however, the percentages of children in the Ameliorative and Direct Verbal groups who were rated high normal and above (91%) were identical and higher than those of the other three groups (48 to 62%). The performance of the two structured groups reflects the highly specific mathematics curricula of the Ameliorative supportive and the Direct Verbal programs. Apparently disadvantaged children of preschool and kindergarten age profit from academically-oriented instruction in mathematics, and both programs seemed appropriate and effective with these children.

Table 43

Metropolitan Number Readiness Mean Raw Score  
Five Groups at the End of Two Years

Group	N	Test 3	Covaried Mean
Traditional	25	12.8	-11.78
Community- Integrated	16	14.0	-10.28
Montessori	13	14.1	-10.52
Ameliorative	24	21.0	- 4.03
Direct Verbal	23	18.9	- 5.75

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	M	C-I	DV	A
	-11.78	-10.52	-10.28	-5.75	-4.03

Differences

T	1.26	1.50	6.03*	7.75*
M		.24	4.77*	6.49*
C-I			4.53*	6.25*
DV				1.72
Table Value	2.81	3.38	3.71	3.94
Corrected Table Value	2.37	2.86	3.14	3.33

$\sqrt{MS}$   
within/harmonic mean = .845

\*Significant difference at .05 level

**Summary:** The Ameliorative and Direct Verbal groups, which did not differ significantly from each other, were significantly higher than the Community-Integrated, Montessori, and Traditional groups.

Table 44

**Metropolitan Number Readiness Status  
Five Groups at the End of Two Years**

Group	Number Readiness Status				
	Poor Risk	Low Normal	Average	High Normal	Superior
Traditional	0%	4%	48%	40%	8%
Community-Integrated	0%	12%	25%	62%	0%
Montessori	0%	8%	31%	46%	15%
Ameliorative	0%	4%	4%	8%	83%
Direct Verbal	0%	0%	9%	39%	52%

Summary of Results

The children who participated in the Traditional, Community-Integrated, and Montessori programs the first year and who attended only the public kindergarten the second year generally demonstrated the least progress. The performance of the Traditional group at the end of the first year more nearly approximated those of the two structured groups than those of the Community-Integrated and Montessori groups which changed little during the preschool intervention. The regression of the Traditional group and the modest progress of the Montessori group during the second year (the kindergarten year) resulted in similar test-three performances. The Community-Integrated group regressed substantially in important areas during the second year. The children in the Ameliorative group made progress equal or superior to that of the Direct Verbal group during the first year but regressed substantially in critical areas the second year. The one-hour supportive program was successful in fostering further development of school readiness (Metropolitan) and visual perception (Frostig). Only the Direct Verbal group made consistent and continued progress in all areas over the two-year period.

CONCLUSIONS AT THE END OF THE KINDERGARTEN YEAR

Only at the end of the first year of the study can differential results be directly attributed to the specifics of preschool intervention, since only then were the five programs comparable in terms

of class unit composition, teacher-pupil ratio, and time. Only limited conclusions, therefore, can be drawn from the longitudinal data, and the second year of this study cannot be viewed merely as a follow-up of the five preschool programs. For those interested in preschool programming for disadvantaged children, the data obtained at the end of the preschool year must remain of primary relevance.

It seems clear that one year of preschool programming, no matter how immediately effective, did not equip disadvantaged children to maintain performance in the kindergarten setting. One could hardly have expected the children in the Ameliorative program to have made greater gains during the preschool year; yet, the picture they present the following year in the critical area of language development is distressing. Regardless of the progress made in preschool by the four groups of children which attended public kindergarten, their relative performances deteriorated during the second year, and it does not seem reasonable to attribute this regression to the inadequacies of preschool experience. Rather, the efficacy of kindergarten programming for disadvantaged children seems open to question. The indictment is not merely of traditional programming, since children in the Traditional preschool did fairly well in language development, but of moving too early to the high pupil-teacher ratio of the public kindergarten. Since one of the principal findings of the first year was that intensive teacher-child interaction is critical to maximum language development and since this kind of interaction cannot occur with the teaching ratio of the public kindergarten, the deterioration in language development is not surprising. Only children in the Direct Verbal program, which maintained a low pupil-teacher ratio and intensive pupil-teacher interaction the second year, made continuing progress in language development over the two-year period.

The Montessori program as implemented in this two-year study did not alter performance level in appreciable ways. The regressive pattern in verbal expressive abilities shown the first year by the Montessori children was reversed during the kindergarten year, and only this group of the four groups which attended public kindergarten made gains in this area. It may be that the focus of the Montessori program on sensory-motor involvement as the basic mode in which conceptual and linguistic abilities develop provided an appropriate base for subsequent language development in the kindergarten setting. However, since the test-three deficit of this group in verbal expressive abilities approximated its initial deficit, only the continuing progress of these children can support this position. The large and continuing IQ gain of the low stratum in the Montessori group suggests that this program was relatively effective in establishing improved intellectual functioning with children who had initially indicated limited potential.

In the relatively unstructured setting of the Community-Integrated preschool, the disadvantaged children did not reciprocate in verbal interactions at any significant level and failed to incorporate the language model of their advantaged peers. Like the Montessori children, the Community-Integrated children demonstrated no appreciable progress in language development during the preschool year, but unlike the Montessori children who made gains in verbal expressive abilities during the kindergarten year, the Community-Integrated children demonstrated substantial regressions in language development during the second year of the study. It may be that the pattern of uninvolvement adopted by the Community-Integrated children during their preschool year continued in the traditional kindergarten setting and further inhibited language development.

During the first year of the study, Ameliorative programming was appropriate and highly effective, and children made remarkable progress in all areas, particularly those of initial inadequacy. This encouraging educational prognosis contributed to a shift in emphasis from language development to school readiness in the one-hour supportive program. The marked regression in verbal expressive abilities experienced by these children during the kindergarten year suggests that this shift in emphasis was ill advised or at least premature. The additional one-hour supportive program did indeed promote superior academic readiness but failed to maintain the level of language functioning achieved in the Ameliorative preschool.

Only children who attended the Direct Verbal preschool were provided low pupil-teacher ratios and intensive language programming over the two-year period, and only these children made continued growth in all aspects of the test battery. The second-year IQ gains of the low and middle strata are particularly encouraging as are the remarkable two-year gains in verbal expressive abilities made by children in this group. Only in the area of reading readiness did these children fail to achieve the superior performance, and this study offers no direct evidence to support the early introduction of reading instruction to disadvantaged children.

**A Follow-Up of Three of the Five Preschool  
Interventions: Evaluations  
over Three Years**

**Merle B. Karnes, Audrey S. Hodgins  
and James A. Teska**

Because all intervention programs were not initiated during the first year of the study, data at the end of first grade are not available for the Montessori and Community-Integrated groups or for the second Direct Verbal class unit. Follow-up data are, however, available for the Traditional group (N=25), the Ameliorative group (N=24), and the first class unit of the Direct Verbal group (N=10). The N's for the Traditional and Ameliorative groups are the same as those reported in the preceding study, "The Effects of Five Preschool Interventions: Evaluations over Two Years." The available N for the Direct Verbal group, however, is reduced from 23 to 10, and conclusions based on data obtained during the third year for the Direct Verbal group must be tentative. This reduced N and the absence of data from the Montessori and Community-Integrated groups required a re-analysis of all data involved in comparisons among the three groups over the period of three years. Since the major implications of data for the first two years were discussed in the preceding report, this second presentation of preschool and kindergarten data is given in appendixes C and D. The major intent of the three-year study will be to evaluate the status of the three groups at the completion of first grade.

Evaluations were made in the following areas prior to the intervention, at the end of the preschool year, at the end of the kindergarten year, and at the end of first grade:

1. Intellectual functioning as measured by the 1960 Stanford-Binet Individual Intelligence Scale, Form L-M.
2. Language development as measured by the Illinois Test of Psycholinguistic Abilities, experimental edition, 1961.
3. Visual perception as measured by the Frostig Developmental Test of Visual Perception.

In addition, the Peabody Picture Vocabulary Test was included in the first three batteries, the Metropolitan Readiness Tests were administered at the end of the preschool and kindergarten years, and the California Achievement Tests, Lower Primary Form W, were given at the end of the first grade.

The first intervention embodied the traditionalist point of view: a nursery school experience which worked in conventional ways to improve the personal, social, motor, and general language



development of the children was followed by a traditional kindergarten under the auspices of the public school. The Direct Verbal program radically departed from the established view: The traditional preschool and kindergarten were seen as inadequate and inappropriate to the task of insuring the academic competencies of the disadvantaged child, and the experimental Direct Verbal preschool was provided for the two years prior to first grade. The Ameliorative program represented a middle ground: Amelioration of deficits related to school inadequacies began during the preschool year so that the disadvantaged child might benefit fully from the traditional kindergarten. The public kindergarten with a one-hour supportive program, it was assumed, would then be an appropriate prelude to first grade.

Children from the three intervention programs attended first-grade classes under the sole supervision of the public schools. All but ten children attended racially integrated schools; consequently, many of the children participating in this study were bussed to schools in socioeconomic neighborhoods other than those in which they lived. Seldom were more than two children from any intervention program assigned to the same classroom. No further research intervention was provided, and all children were given the fourth battery of tests in the late spring of the third year of the study.

The initial composition of the three groups included in this longitudinal evaluation is summarized in Table 1.

## RESULTS AT THE END OF FIRST GRADE

### Statistical Procedure

Statistical treatment of the total battery data (Binet, ITPA total, Frostig, and California Achievement Tests) employed a multivariate analysis of covariance using initial Binet, ITPA total, Peabody, and Frostig scores as covariates. Since the California was not given until the end of the third year of the study, scores from this instrument were not available for use as covariates. A separate multivariate analysis of covariance of ITPA subtest data used the initial scores from the nine subtests as covariates. When multivariate  $F$ 's were significant, Newman-Keuls tests at the .05 level were conducted in those instances when univariate  $F$ 's were also significant. The small  $N$  (10) in the Direct Verbal group mitigates against statistical difference and limits the discussion of differences among the groups.

### Total Battery Analysis

The  $F$  ratio for the multivariate test of equality of mean vectors for the six instruments in the test-four battery was

Table 1

Initial Group Composition

Group	N*	Mean Binet CA	Mean Binet IQ	Intelligence Strata Means						Race		Sex	
				High	N	Middle	N	Low	N	Caucasian	Negro	M	F
Traditional	25	52.4	94.4	108.6	7	93.9	10	82.6	8	9	16	15	10
Ameliorative	24	52.1	96.2	107.0	8	95.7	9	84.6	7	7	17	11	13
Direct Verbal	10	51.1	96.6	111.0	3	93.5	4	86.3	3	3	7	4	6

\*Sixteen children withdrew from the programs before the end of the third year (battery four), and no data for these children are included in this study.

significant at the .0064 level (Table 2). Univariate F's indicated significant differences among the three groups in California Reading, Arithmetic, and Language grade level. There were no significant differences among the groups on Binet IQ, Frostig PQ, and ITPA total language age difference score.

### School Achievement

Although important interim evaluations were made at the end of the preschool and kindergarten years, school achievement at the end of first grade was understood to be a critical criterion in assessing program effectiveness. The reading achievement of the Ameliorative and Direct Verbal groups as measured by the California Achievement Tests was significantly higher than that of the Traditional group (Table 3). The very similar performances of the Direct Verbal and Ameliorative groups are of particular interest since these programs relied on rather different approaches to reading during the first two years of the study. Two years of reading instruction in the Direct Verbal program prior to first grade seem to have been only as effective as the extensive readiness preparation in the Ameliorative program in producing accelerated reading development. This study provides little evidence to support the introduction of early reading programs for disadvantaged children.

The California reading test yields separate grade level scores for vocabulary and comprehension. In the Traditional and Ameliorative groups, these scores closely approximated the total reading means (Table 4). The comprehension score of the Direct Verbal group, however, was nearly a half year below its vocabulary score. This discrepancy may relate to the emphasis given to the teaching of reading subskill mechanics which prepared the children to perform well on the vocabulary section of the test (single word recognition) but did not equally equip them to derive meaning from sentences as required by the comprehension section. The Direct Verbal group, in fact, did little better than the Traditional group on the comprehension test.

The mean reading level of the Traditional group was essentially at grade level, an encouraging result for a group of disadvantaged children of normal ability. The distribution of reading scores within this group is, however, disconcerting since nearly half of these children demonstrated limited reading ability, scoring below a grade level of 1.5 (Table 5). The mean reading level of the Ameliorative and Direct Verbal groups, nearly a half year above grade level, was indeed a remarkable achievement for these disadvantaged children. Further, in these two groups very few children seemed to have marked difficulty in learning to read; in fact, over half were reading at or above the second-grade level.

Table 2

Total Battery Multivariate Analysis of Covariance  
Three Groups for Three Years

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F ratio for multivariate test of equality  
of mean vectors = 2.5237

df = 12 and 94                      P less than .0064

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Variable	Between Mean Square	Univariate F	P less than
Binet IQ	203.2559	2.1249	.1298
Frostig PQ	261.1506	2.6904	.0773
California Reading Grade Level	111.8742	3.6928	.0317
California Arithmetic Grade Level	47.6488	6.0655	.0043
California Language Grade Level	64.6430	4.8049	.0122
ITPA Total Language Age Difference Score*	111.0188	2.1584	.1258

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NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference scores (in months) were used as covariates.

\*To relate language age to chronological age, a difference score (in months) was computed by subtracting a child's chronological age at the time of testing from his language age.

Table 3  
Reading  
California Achievement Tests  
Three Groups at the End of First Grade

Group	N	Actual Grade Placement Mean at Time of Test	Reading Grade Level Mean	Covaried Mean
Traditional	25	1.74	1.67	-24.01
Ameliorative	24	1.74	2.12	-20.08
Direct Verbal	10	1.72	2.17	-19.86

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	A	DV
	-24.01	-20.08	-19.86

Differences

T		3.93	4.15
A			.22
Table Value		2.84	3.41
Corrected Table Value		3.85	4.62

$\frac{1}{MS}$  within/harmonic mean = 1.355

**Summary:** The Newman-Keuls Test revealed no significant differences among groups, although the univariate F was significant at the .0317 level (Table 2). Since the univariate F was significant and since the covaried means of the Ameliorative and Direct Verbal groups were similarly higher than the covaried mean of the Traditional group, it is reasonable to conclude that the means of the Ameliorative and Direct Verbal groups were significantly higher than that of the Traditional group.

Table 4

California Achievement Tests  
Reading Vocabulary and Comprehension  
at the End of First Grade

Group	N	Vocabulary Grade Level Mean	Comprehension Grade Level Mean
Traditional	25	1.64	1.66
Ameliorative	24	2.12	2.09
Direct Verbal	10	2.24	1.75

Table 5

California Achievement Tests  
Distribution of Reading Scores  
at the End of First Grade

Group	N	Grade Level			
		Below Average 1.0-1.4	Average 1.5-1.9	Above Average 2.0-2.4	Superior 2.5-3.4
Traditional	25	48%	28%	8%	16%
Ameliorative	24	8%	42%	21%	29%
Direct Verbal	10	10%	20%	50%	20%

NOTE: These distribution categories were constructed on the basis of the actual grade placement of the children (1.7) at the time of the test.

Since such divergent approaches to reading yielded nearly identical results, elements common to these two programs and absent in the Traditional program are of some interest. Both the Ameliorative and Direct Verbal programs gave major emphasis to language development through intensive, highly structured programming. Learning tasks were explicitly designed to achieve immediate goals, and the child's repeated participation in specific, verbal responses was required in direct teacher-child interactions.

The California language test assesses capitalization, punctuation, word usage, and spelling skills and bears little relation to language development as it is discussed elsewhere in this report. The performance of the Ameliorative group was significantly

higher on this language test than that of the Traditional group (Table 6). The performance of the Direct Verbal group approximated that of the Ameliorative group but failed to achieve significance. Since the skills required for successful performance on this test were not taught at the preschool or kindergarten levels (with the exception of limited spelling instruction for Direct Verbal children), the differential nature of this performance may reflect the superiority of the Ameliorative and Direct Verbal groups in general school readiness as evidenced on the Metropolitan Readiness Tests at the end of the kindergarten year (Appendix D, Tables 5 and 6).

The results of the Metropolitan Number Readiness Test at the end of the kindergarten year indicated that the two structured groups were better prepared for the more formal work of first-grade mathematics. The Ameliorative and Direct Verbal groups were significantly higher than the Traditional group on the California arithmetic test at the end of the first grade, confirming this prediction (Table 7). The arithmetic performance of the Traditional group, nearly three months below grade level, is a somewhat discouraging prognosis for a group of disadvantaged children of average ability who had both a preschool and a kindergarten experience prior to first-grade instruction. Over half of the children in this group were performing substantially below grade placement at the time of the test (Table 8). Although the arithmetic performance of the Ameliorative and Direct Verbal groups did not parallel the acceleration shown in reading by these children, it was, nevertheless, at grade level. Further, less than 20% of these children can be considered to have serious difficulty in arithmetic. Disadvantaged children apparently profited from academically-oriented instruction in mathematics at the preschool and kindergarten levels, and the Ameliorative and Direct Verbal curricula, though rather different in their basic assumptions, seemed equally appropriate and effective in fostering first-grade arithmetic achievement.

#### Intellectual Functioning

The Binet performances of the three groups were clearly differentiated over the three year period (Figure 1, Table 9). The performance of the Ameliorative and Direct Verbal groups was significantly superior to that of the Traditional group at the end of the preschool year (Appendix C, Table 2). At the end of the kindergarten year, the Binet performance of the Direct Verbal group was significantly superior to that of the other two groups (Appendix D, Table 2). The Ameliorative group was very nearly significantly higher than the Traditional group. At the end of the third year of the study, when all children were completing the first grade, there were no significant differences among the three groups (Table 10). The modest preschool gain (8 points) of the Traditional group remained relatively stable during the following

Table 6

Language  
California Achievement Tests  
Three Groups at the End of First Grade

Group	N	Actual Grade Placement Mean at Time of Test	Language Grade Level Mean	Covaried Mean
Traditional	25	1.74	1.70	-16.61
Ameliorative	24	1.74	2.09	-13.35
Direct Verbal	10	1.72	2.00	-14.21

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	DV	A
	-16.61	-14.21	-13.35

Differences

T	2.40	3.29*
DV		.86
Table Value	2.84	3.41
Corrected Table Value	2.56	3.08

$\sqrt{MS}$  within/harmonic mean = .903

\*Significant difference at .05 level

- Summary:
1. The Ameliorative group was significantly higher than the Traditional group but not significantly higher than the Direct Verbal group.
  2. The Direct Verbal and Traditional groups did not differ significantly from each other.



Table 7

Arithmetic  
California Achievement Tests  
Three Groups at the End of First Grade

Group	N	Actual Grade Placement Mean at Time of Test	Arithmetic Grade Level Mean	Covaried Mean
Traditional	25	1.74	1.49	-11.50
Ameliorative	24	1.74	1.80	- 8.85
Direct Verbal	10	1.72	1.80	- 9.00

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	DV	A
	-11.50	-9.00	-8.85

Differences

T	2.50*	2.65*
DV		.15
Table Value	2.84	3.41
Corrected Table Value	1.96	2.35

$\sqrt{MS}$  within/harmonic mean = .690

\*Significant difference at .05 level

Summary: The Ameliorative and Direct Verbal groups, which did not differ significantly from each other, were significantly higher than the Traditional group.

Table 8

**California Achievement Tests  
Distribution of Arithmetic Scores  
at the End of First Grade**

Group	N	Grade Level			
		Very Low .5-.9	Below Average 1.0-1.4	Average 1.5-1.9	Above Average 2.0-2.4
Traditional	25	8%	44%	32%	16%
Ameliorative	24	0%	17%	54%	29%
Direct Verbal	10	0%	20%	40%	40%

NOTE: These distribution categories were constructed on the basis of the actual grade placement of the children (1.7) at the time of the test.

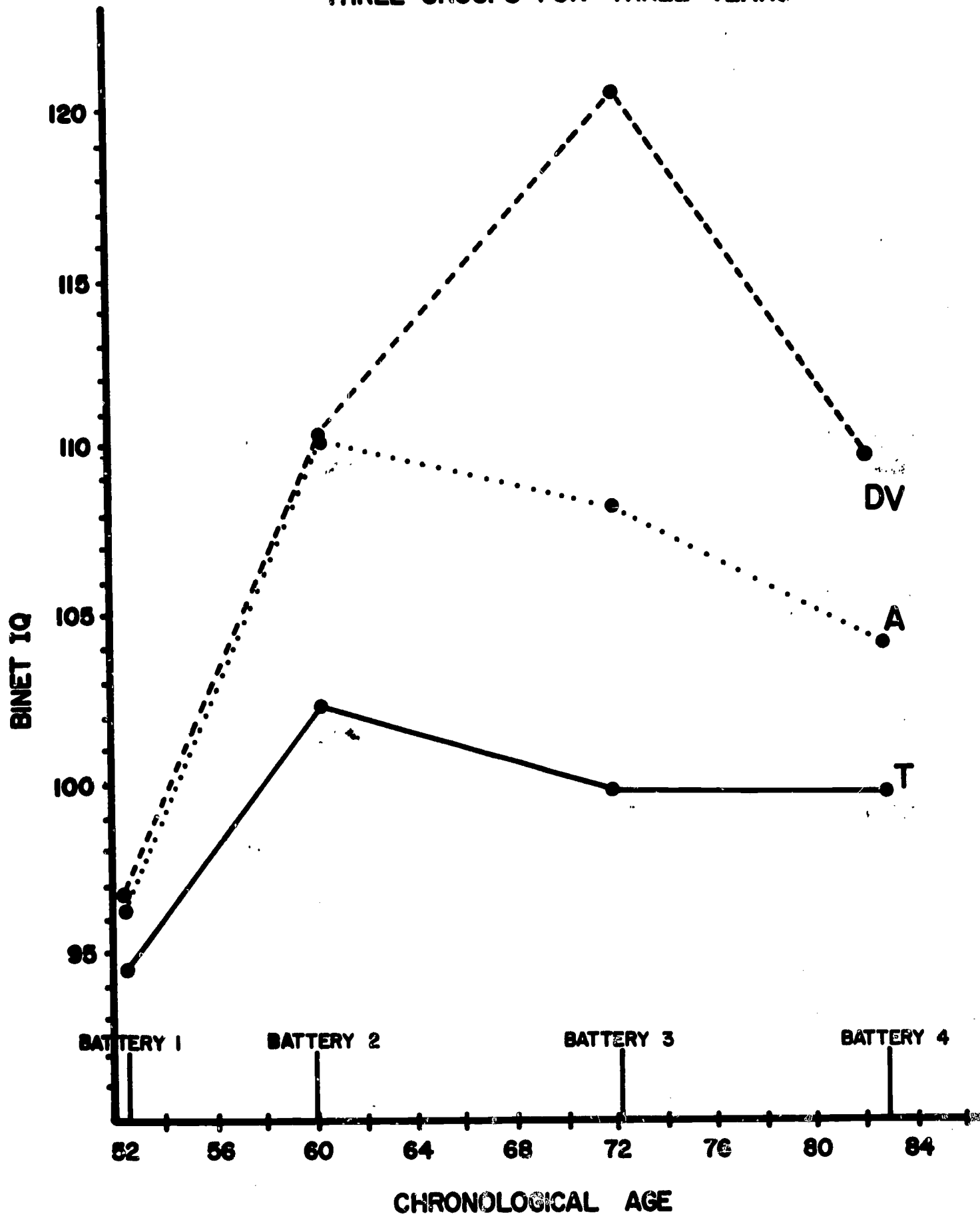
Table 9

**Stanford-Binet Mean IQ  
Three Groups over Three Years**

Group	N	Preschool Year		Kindergarten Year		First Grade	
		Test 1	Test 2	Test 3	Test 4		
Traditional	25	94.4	102.6	100.0	100.0		
Ameliorative	24	96.2	110.0	108.6	104.3		
Direct Verbal	10	96.6	110.3	120.6	109.7		

NOTE: IQ means (test 1, 2, 3, and 4) by race-sex categories are found in appendix E.

FIGURE I  
 BINET IQ  
 THREE GROUPS FOR THREE YEARS



NOTE: THE TIMES OF THE FOUR BATTERIES ARE PLOTTED AT THE MEAN BINET CHRONOLOGICAL AGE OF THE THREE GROUPS.

Table 10

Stanford-Binet Mean IQ  
Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	94.4	5.6	100.0	-17.34
Ameliorative	24	96.2	8.1	104.3	-15.47
Direct Verbal	10	96.6	13.1	109.7	- 9.75

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

two years (5 points at the end of the first grade). Although the one-hour supportive program was unsuccessful in fostering a further gain for the Ameliorative group, it may have been responsible for maintaining the relatively large preschool gain. The Ameliorative group did, however, lose 6 points of this gain during the kindergarten and first-grade years, retaining an 8 point gain at the end of the third year of the study. Only the Direct Verbal group received sustained special programming during the preschool and kindergarten years, and only the Direct Verbal group made large and continuing gains (13 and 10 points) during the first two years of the study. When special programming terminated and these children entered the first grade of the public schools, they experienced a sizeable loss (11 points).

Initially the IQ scores of one-third of the children in each intervention group placed them in high strata, 100 and above. At the end of the preschool year, nearly half of the children in the Traditional group scored in the high stratum, and this percentage remained remarkably stable during the following two years in the public schools (Table 11).

Table 11

High Intelligence Strata  
Three Groups for Three Years

Group	N	Preschool	Kindergarten	First Grade	
		Year	Year		
		Test 1	Test 2	Test 3	Test 4
T	25	28%	48%	48%	44%
A	24	33%	92%	75%	71%
DV	10	30%	90%	100%	50%

Nearly all children in the two structured programs scored 100 and above at the end of the preschool year. Approximately three-fourths of the children in the Ameliorative group remained in the high stratum the following two years. All ten children in the Direct Verbal group scored in the high stratum at test three; however, only half remained in that stratum at the end of first grade.

Approximately 20% of the children in the two structured programs gained twenty or more points at the end of first grade (Table 12); 8% of the children in the Traditional group made such gains. Sixty percent of the children in the Direct Verbal group, 46% of the children in the Ameliorative group, and 36% of the children in the Traditional group made gains of ten or more points. Only

one of the ten children in the Direct Verbal group scored lower on test four than on test one; 20% of the children in the Ameliorative group and 28% of the children in Traditional group regressed.

Table 12

Distribution of IQ Gains  
Test 1-4 (End of First Grade)

Test 1-4 Gain in IQ Points	Group					
	Traditional N=25		Ameliorative N=24		Direct Verbal N=10	
	%	N	%	N	%	N
35 to 39	0	(0)	0	(0)	10	(1)
30 to 34	4	(1)	0	(0)	0	(0)
25 to 29	0	(0)	4	(1)	0	(0)
20 to 24	4	(1)	17	(4)	10	(1)
15 to 19	8	(2)	4	(1)	10	(1)
10 to 14	20	(5)	21	(5)	30	(3)
5 to 9	16	(4)	21	(5)	30	(3)
0 to 4	20	(5)	12	(3)	0	(0)
- 1 to - 5	16	(4)	12	(3)	10	(1)
- 6 to -10	4	(1)	0	(0)	0	(0)
-11 to -15	4	(1)	4	(1)	0	(0)
-16 to -20	4	(1)	4	(1)	0	(0)

IQ gains by strata over the three-year period offer some of the most encouraging data of the study as well as some of the most disturbing (Table 13). The high loss (13 points) of the middle and low strata children in the Direct Verbal group during the first grade in the public schools was not shared by children in these strata in either the Traditional or the Ameliorative groups. The low strata children of the Ameliorative group, in fact, maintained their sizeable initial gain with remarkable consistency. Because the gains of the Ameliorative children in the low and middle strata were both substantial and stable, it seems justifiable to conclude that this program offered particular opportunities to develop the intellectual functioning of low-normal and slow-learning children. The Ameliorative preschool stressed physical mastery of a concept through manipulative experience accompanied by appropriate verbalizations -- a mode of instruction apparently suited to the children in these strata. The academic readiness work offered in the supportive program the second year not only maintained the gains in intellectual functioning made during the preschool year but seemed to provide the necessary thrust to sustain this level of performance again the third year when these

Table 13

Stanford-Binet IQ Mean Gains by Strata  
Three Groups for Three Years

Group	Strata	N	Post-Preschool Test 1-2 diff.	Post-Kindergarten Test 1-3 diff.	Post-First Grade Test 1-4 diff.
Traditional	High	7	6.3	4.1	- 1.4
	Middle	10	8.9	5.1	10.1
	Low	8	9.0	7.4	6.3
Ameliorative	High	8	9.9	10.8	- .5
	Middle	9	15.7	12.0	10.7
	Low	7	16.0	14.7	14.7
Direct Verbal	High	3	11.3	21.7	15.3
	Middle	4	14.0	20.8	7.0
	Low	3	15.7	30.7	19.0

children were in the first grade with no special programming. Since the early amelioration of school inadequacies was the intent and design of the Ameliorative program, the magnitude and stability of these IQ gains is an endorsement of the effectiveness of this program.

The marked reversal in Binet performance experienced by the children in the lower two strata of the Direct Verbal group suggests difficulty in making a transition from intensive pupil-teacher interaction to large group instruction. Children in the Traditional group had never experienced such a high degree of teacher-pupil interaction. Although children in the Ameliorative group had been actively engaged in small group, teacher-directed instruction during their preschool year, the supportive program the second year (low pupil-teacher ratio) ran simultaneously with the public kindergarten (large group instruction) and may have provided a useful transition to the first-grade setting. It is, of course, also possible that the mode of instruction in the Direct Verbal program, so highly effective during the first two years of the study, was inappropriate to the public school setting. The dissonance between the specific child behavior required in the Direct Verbal program and the operation of the first-grade classroom may have been so great as to inhibit continuing intellectual development.

The IQ losses experienced only by the high strata children in both the Traditional and Ameliorative groups during first grade are of real concern and resulted in an IQ change in a negative direction over the three-year period. The modest gain (six points) of the Traditional high strata and the more substantial gain (ten points) of the Ameliorative high strata during the preschool year remained stable during the kindergarten year but were lost during the first grade. It is untenable to presume a factor common to both the Traditional and Ameliorative two-year interventions which explains such losses the third year. Rather, it seems reasonable to suppose that in important ways the public school failed these high strata children during the first grade. These children may have been judged by criteria based on preconceptions of what disadvantaged children are like and how they will perform in school, and instructional provisions may have been more inadequate for the high strata children than for the children in the other two strata.

The assumption that the public schools failed disadvantaged children with demonstrated potential is further supported by a consideration of the first-grade Binet performance of the 26 children from the three intervention programs who scored 110 and above at the end of the kindergarten year (6 of the 25 children in the Traditional group, 12 of the 24 children in the Ameliorative group, and 8 of the 10 children in the Direct Verbal group). Twenty-four of these 26 children scored lower on the test-four Binet than they had on test three, a mean loss of 9.2 IQ points. The school



failures of disadvantaged children are commonly attributed to limited abilities or undeveloped potential, but the deterioration in the intellectual functioning of these 24 children seems to be a clear indictment of public school programming.

#### Language Development

The F ratio for the multivariate test of equality of mean vectors for the nine ITPA subtests on test four was nonsignificant (Table 14), and the nine subtest tables are presented in appendix F. The subtest performances of the three groups at the end of each of the three years of the study were essentially nondifferential (Appendix C, Table 8; Appendix D, Table 8). Significant subtest differences occurred only at the end of the preschool year when the performance of the Direct Verbal group was significantly higher than those of the Ameliorative and Traditional groups on Auditory-Vocal Association (Appendix C, Table 12) and when the performance of the Ameliorative group was significantly higher than those of the Direct Verbal and Traditional groups on Visual-Motor Association (Appendix C, Table 16).

The disadvantaged children in these three groups, as well as the children in all other similarly constituted groups throughout this project, demonstrated major initial deficits on three subtests: Vocal Encoding, Auditory-Vocal Automatic, and Auditory-Vocal Association. In addition to the specific aspects of language functioning measured, the ability to express oneself verbally is the common requisite for successful performance on these three subtests. During the preschool year all groups made good progress (7 to 12 months in excess of the program interval) on the Vocal Encoding test and substantially reduced the size of their initial deficits (Figure 2). The Traditional and Ameliorative groups regressed during the second year, and only the Direct Verbal group made continuing progress. At the completion of first grade, all groups again had major deficits. The test-four deficit of the Traditional group approximated its initial deficit while the test-four deficits of the Ameliorative and Direct Verbal groups were less than half their initial levels. On the Auditory-Vocal Automatic subtest only the Ameliorative group was nondeficit at the end of the preschool year (Figure 3). Although the Traditional group made modest progress (4 months) and the Direct Verbal group made somewhat better progress (7 months), substantial deficits remained. The Traditional and Ameliorative groups regressed during the second year, and only the Direct Verbal group made continued progress. At the completion of first grade, the deficits of the Traditional and Ameliorative groups approximated their large initial deficits. The Direct Verbal group maintained its nondeficit test-three performance. At the end of the preschool year, both the Direct Verbal and Ameliorative groups were nondeficit on the Auditory-Vocal Association subtest (Figure 4). The gain of the Direct Verbal group (14 months) doubled that of the Ameliorative group while the progress of the Traditional group

Table 14

ITPA Subtest Multivariate Analysis of Covariance  
Three Groups for Three Years

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F ratio for multivariate test of equality  
of mean vectors = .9442

df = 18 and 78                      P less than .5303

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Variable	Between Mean Square	Univariate F	P less than
Auditory-Vocal Automatic	377.8153	2.0619	.1386
Visual Decoding	956.2439	4.5786	.0153
Motor Encoding	243.7214	.7659	.4707
Auditory-Vocal Association	36.9944	.5928	.5569
Visual-Motor Sequencing	145.0325	1.0133	.3709
Vocal Encoding	7.8439	.0207	.9796
Auditory-Vocal Sequencing	205.5624	1.0532	.3570
Visual-Motor Association	78.0389	.2968	.7447
Auditory Decoding	102.2585	.5239	.5957

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NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

FIGURE 2  
 VOCAL ENCODING DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS

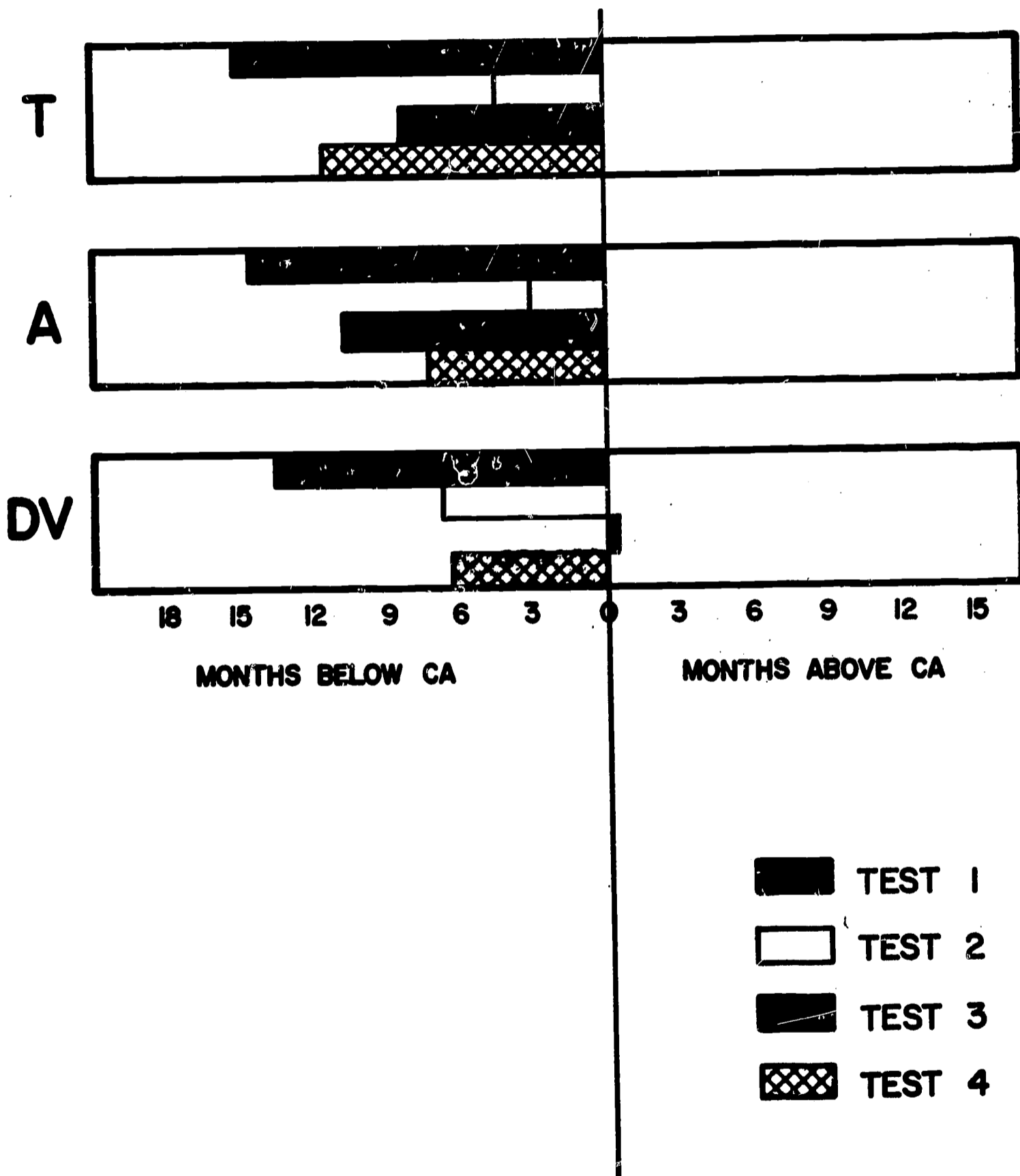


FIGURE 3  
 AUDITORY-VOCAL AUTOMATIC DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS

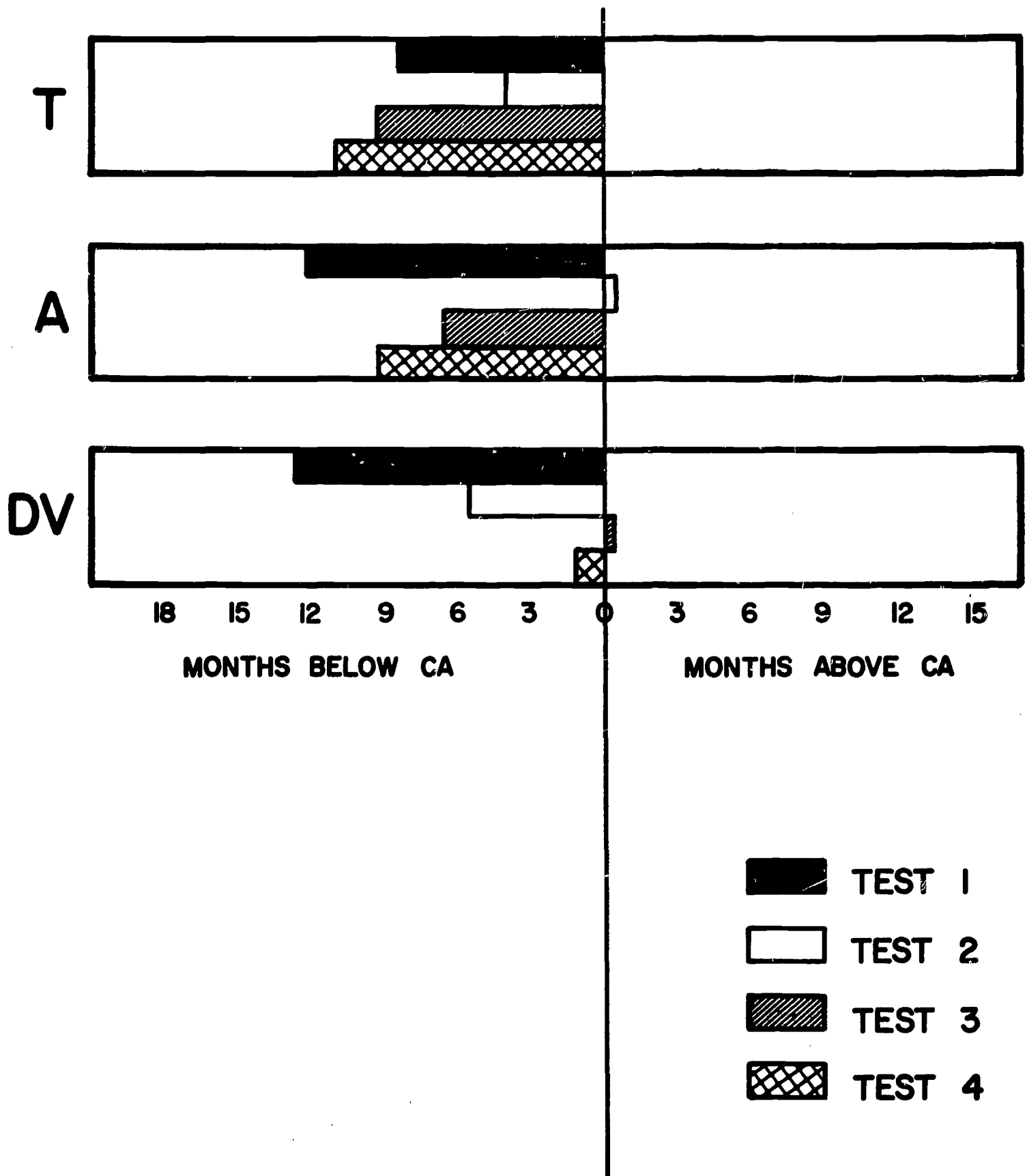
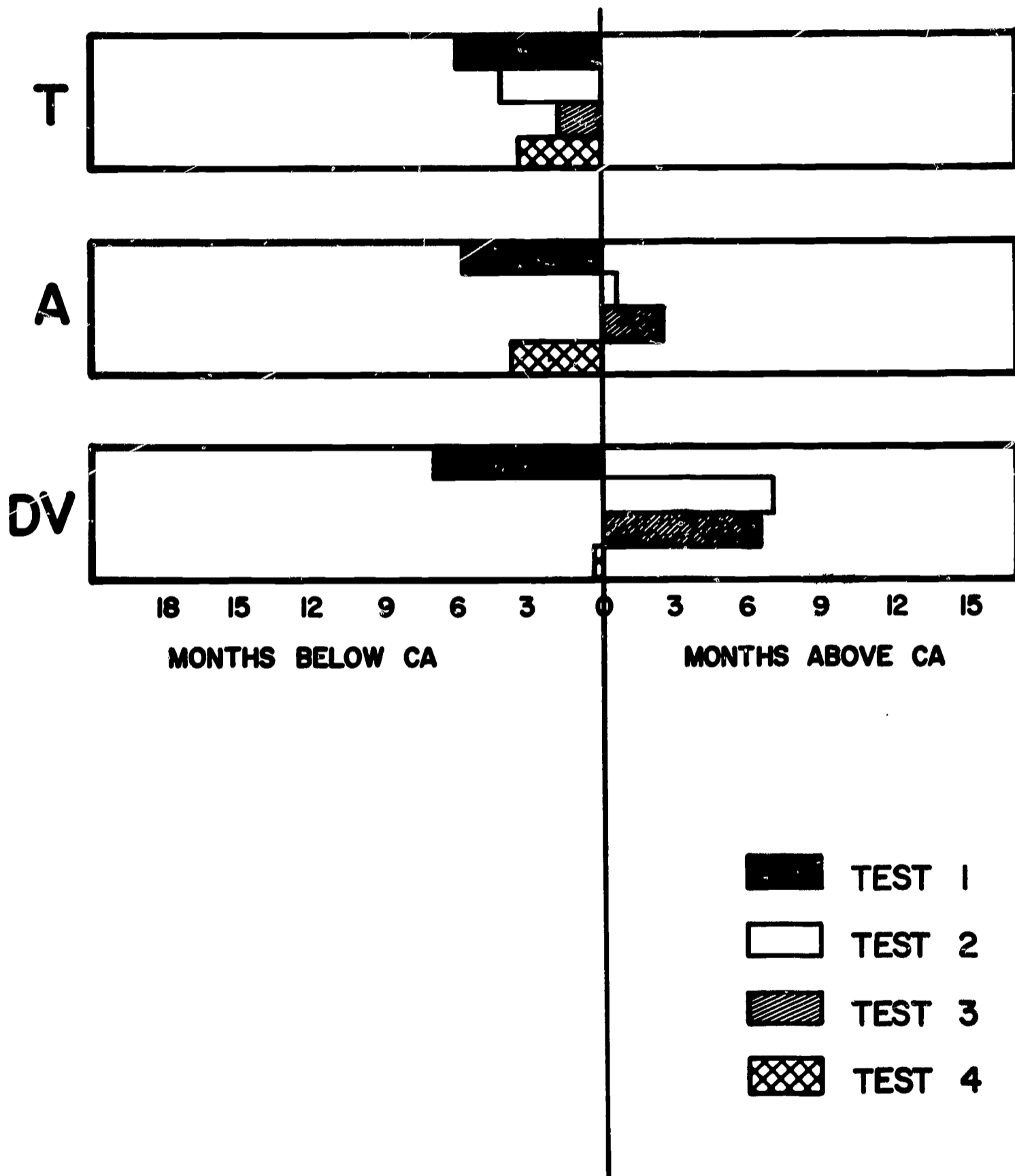


FIGURE 4  
 AUDITORY-VOCAL ASSOCIATION DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS



(less than 2 months) was negligible. During the kindergarten year, the Traditional and Ameliorative groups made modest progress, and the Direct Verbal group maintained its accelerated level. All groups regressed during the first grade, and test-four scores were similar and revealed no major deficits. When children in the Traditional and Ameliorative groups entered public kindergarten and when children in the Direct Verbal group entered first grade, substantial regressions on the three subtests reflecting verbal expressive abilities occurred. In the Ameliorative and Traditional groups the regressions which began in the kindergarten year continued during first grade. Maintaining classroom dynamics which foster direct pupil-teacher interaction (low pupil-teacher ratio) seems to have been crucial to nondeficit performance.

On two ITPA subtests (Motor Encoding and Visual-Motor Sequencing) the three groups tended to show relatively small initial deficits of three to six months. During the preschool year only the Direct Verbal group failed to make progress on the Motor Encoding test, and the magnitude of their test two-deficit (6 months) stands in contrast to the performance of the other two groups (Figure 5). During the kindergarten year the Traditional group remained nondeficit, the Ameliorative group regressed to its initial level, and the Direct Verbal group achieved a nondeficit performance which it maintained during first grade. The Traditional and Ameliorative groups continued to regress, and their test-four deficits were larger than those they had demonstrated initially. On the Visual-Motor Sequencing test<sup>1</sup> the relatively large gain (9 months) of the Traditional and Ameliorative groups during the preschool year contrasts with the static performance of the Direct Verbal children who gained less than one month (Figure 6). During the kindergarten year, the Direct Verbal group again remained relatively unchanged while the Traditional and Ameliorative groups regressed substantially. Each group regressed during the first-grade year to its initial level of deficit.

On four of the ITPA subtests the three groups showed negligible or no initial deficits: Auditory Decoding, Auditory-Vocal Sequencing, Visual-Motor Association, and Visual Decoding. Although the Traditional group eliminated its modest initial deficit on the Auditory Decoding subtest during the preschool year and the Ameliorative group maintained its somewhat accelerated performance, credit must be given to the Direct Verbal program for the remarkable

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<sup>1</sup>The initial level of deficit (5 to 11 months) demonstrated by these groups would place this subtest in the category of major initial deficit; however, in the previous study, "The Effects of Five Preschool Interventions: Evaluations over Two Years," evidence was presented to suggest that Visual-Motor Sequencing was not an area of major deficit for the four-year-old disadvantaged children participating in the total study. (See p. 76.)

FIGURE 5  
 MOTOR ENCODING DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS

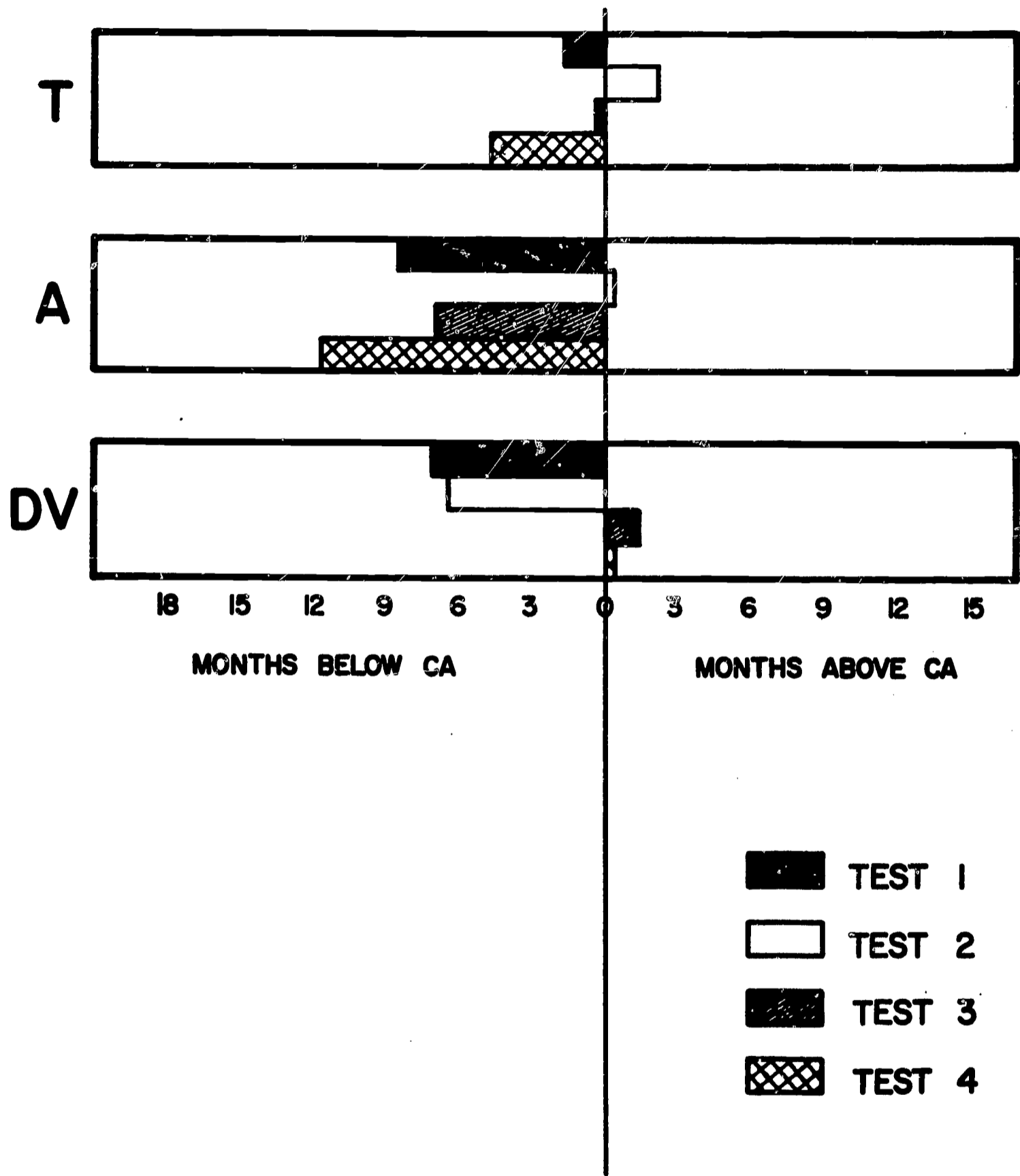
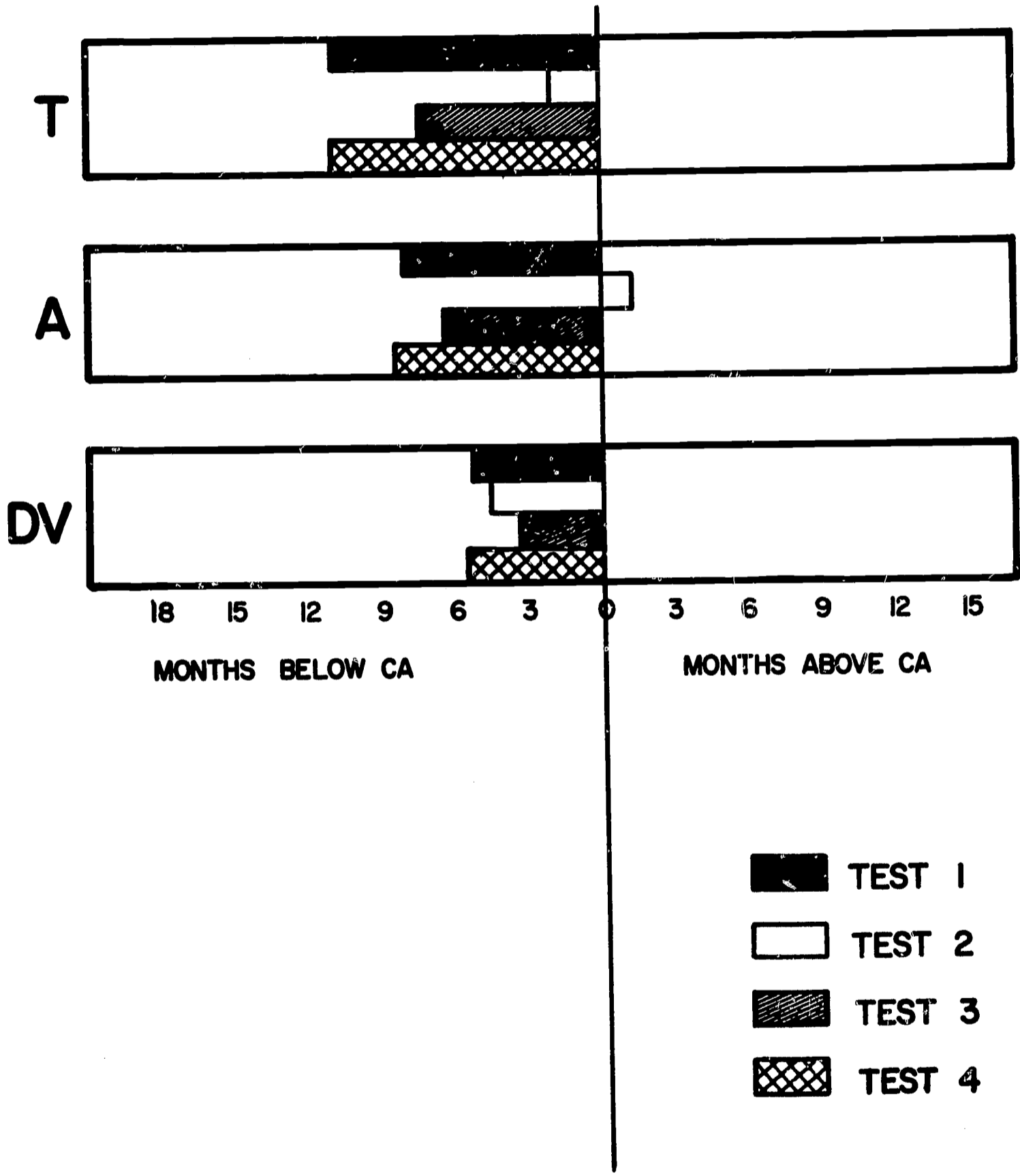


FIGURE 6  
 VISUAL-MOTOR SEQUENCING DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS





progress of the children who gained 8 months in excess of the program interval, scoring 9 months above their mean chronological age at the end of the preschool year (Figure 7). At the end of the kindergarten year, the Ameliorative group remained nondeficit, the Traditional group regressed to approximately its initial level of deficit, and the Direct Verbal group continued to gain, scoring 16 months above its chronological age on test three. At the end of the third year, the Ameliorative and Traditional groups demonstrated further, small regressions while the Direct Verbal group regressed 13 months. These children passed fewer items at the end of first grade than they had at the end of their second year in preschool. Only the Ameliorative group made progress on the Auditory-Vocal Sequencing subtest during the preschool year, and the nondeficit performance of the Traditional and Direct Verbal groups remained unchanged (Figure 8). The Direct Verbal group maintained its nondeficit performance during the second year while the Ameliorative and Traditional groups regressed 5 months. At the end of the first grade, the Direct Verbal group again demonstrated remarkable stability while the Traditional and Ameliorative groups regressed an additional 4 months. No appreciable changes in performance on the Visual-Motor Association subtest occurred during the three years of the study (Figure 9). The small regressions of the Ameliorative group were due to test ceiling effects. All groups did well on the Visual Decoding subtest at the end of the preschool year, but the gain of the Ameliorative group tripled that of either the Direct Verbal or the Traditional group (Figure 10). This gain placed the Ameliorative group eleven months above its chronological age. The Traditional and Direct Verbal groups did not change appreciably during the following two years, maintaining their nondeficit performances at the end of first grade. In sharp contrast, the Ameliorative group regressed 20 months in relation to its chronological age during the two-year period. These children passed 12.6 items on the Visual Decoding test at the completion of preschool and two years later, at the completion of first grade, passed only 13.0 items.

Over the three years, the Direct Verbal group moved in a positive direction on 8 of the 9 subtests. The range of this upward movement was from .4 to 11.5 months, and the gain on four of these eight subtests exceeded 3.1 months.<sup>2</sup> Its one loss was .4 months. The Traditional group made gains on four of the nine subtests. The range was from 2.4 to 3.9 months and in two instances exceeded the median. Its losses ranged from .1 to 9.0 months and exceeded the median in one instance. The Ameliorative group moved in a positive direction on only three of the nine subtests over the three years of the study. The range of this

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<sup>2</sup> A gain or loss in excess of 3.1 months was chosen as a descriptive evaluation point since in half of the instances mean language age difference scores for the three groups were altered to that extent.

FIGURE 7  
 AUDITORY DECODING DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS

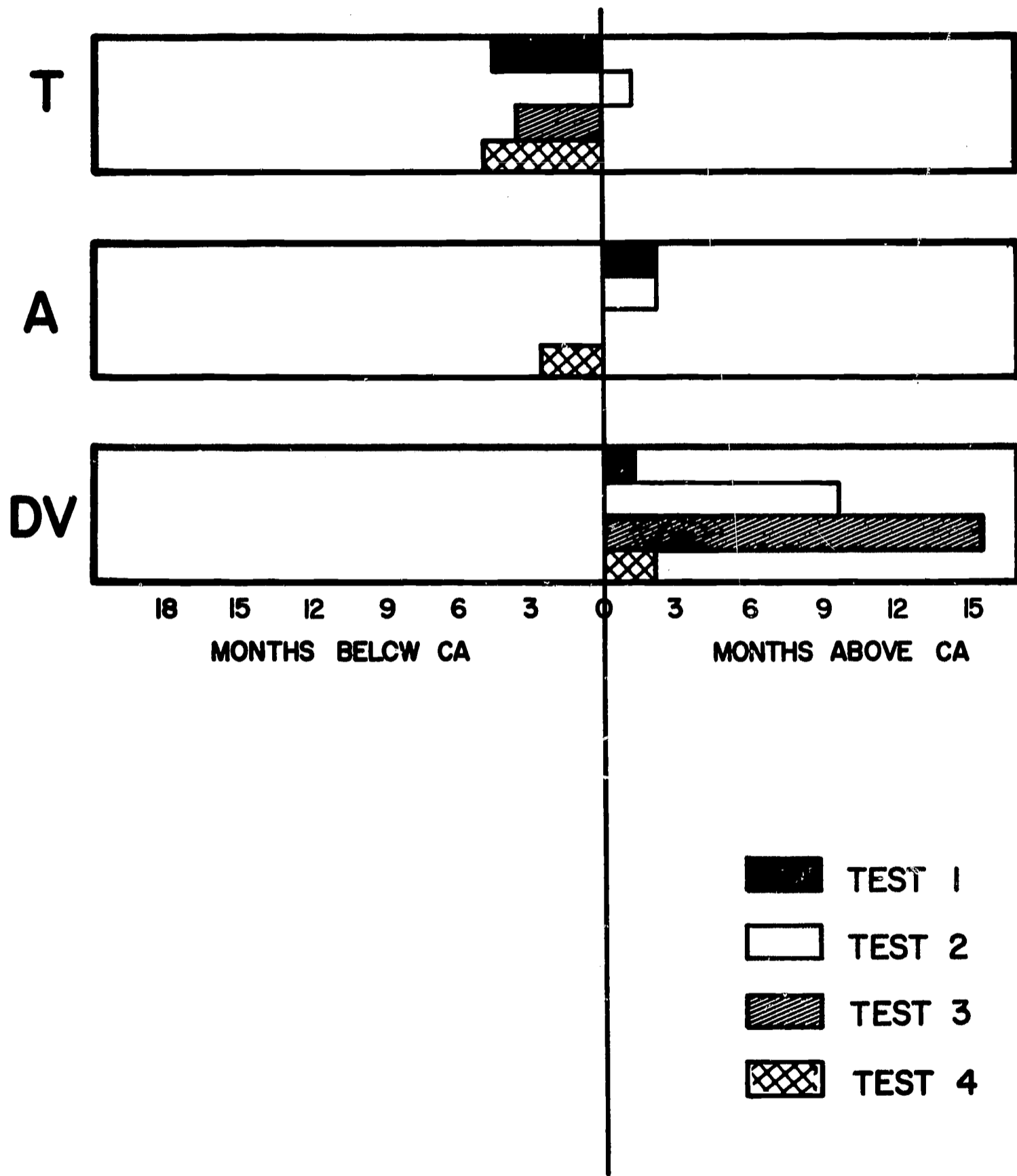


FIGURE 8

AUDITORY-VOCAL SEQUENCING DIFFERENCE SCORE MEANS  
THREE GROUPS FOR THREE YEARS

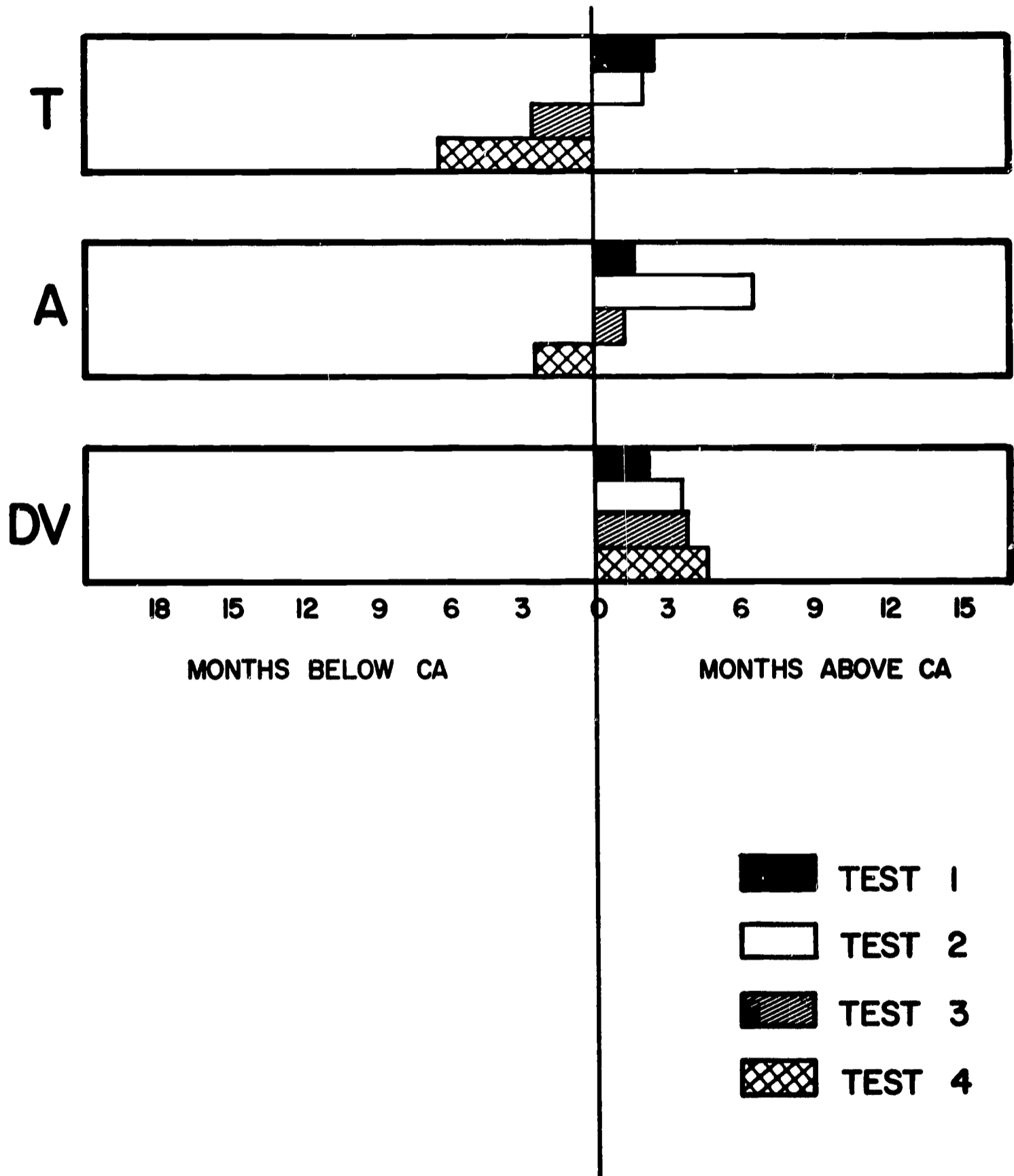


FIGURE 9  
 VISUAL-MOTOR ASSOCIATION DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS

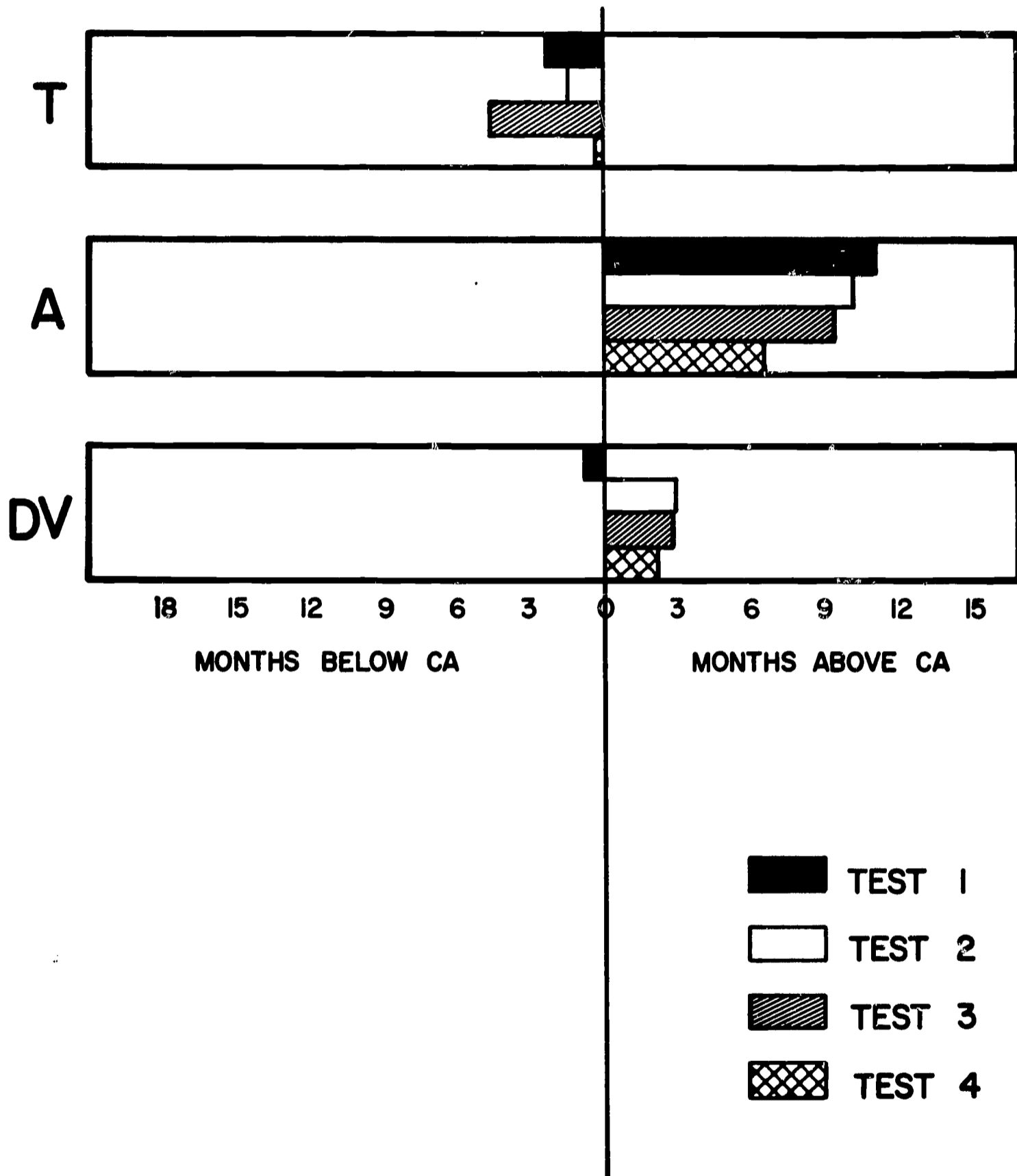
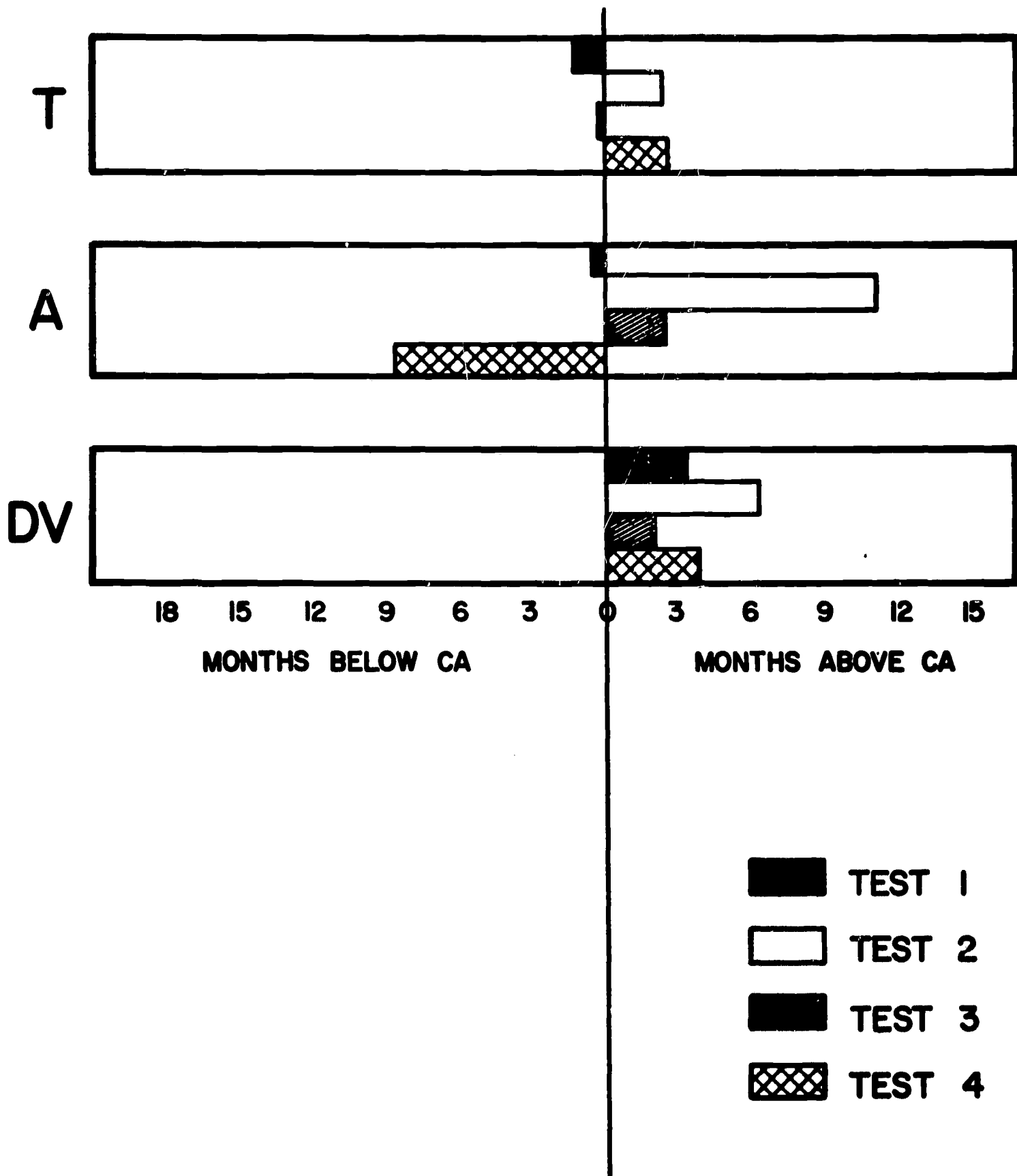


FIGURE 10  
 VISUAL DECODING DIFFERENCE SCORE MEANS  
 THREE GROUPS FOR THREE YEARS



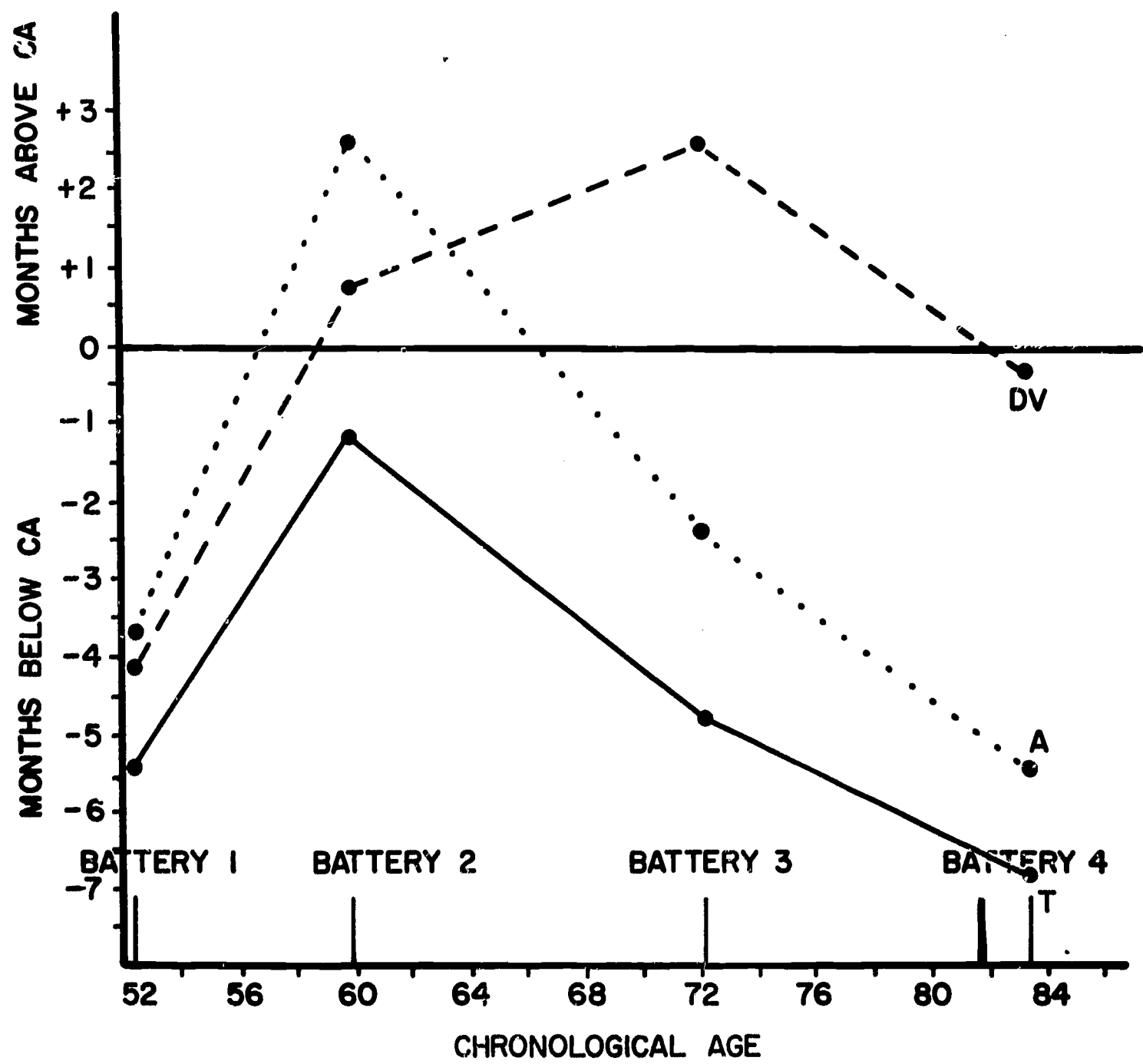
upward movement was from 2.3 to 7.5 months, and in one instance exceeded the median. Its losses ranged from .3 to 8.2 months and exceeded the median in five instances. The test-four performance of the Ameliorative group is particularly distressing since its program was intended to ameliorate such language inadequacies and since its nondeficit test-two performance had been so encouraging.

The language performance pattern of the three groups over three years is clearly illustrated by the ITPA total (Figure 11). Initial ITPA total language age deficits were four to five months. At the end of the preschool year, the three groups were performing very nearly at their respective chronological ages. The Traditional group maintained a small deficit, and the Direct Verbal group achieved a modest acceleration. The Ameliorative group made the largest gain and was functioning nearly three months above its mean chronological age. During the second year of the study, only the Direct Verbal group made continued gains, and its ITPA total performance was significantly higher than those of the Ameliorative and the Traditional groups (Appendix D, Table 7). The losses of the Ameliorative group during the kindergarten year resulted in a test-three performance two months below its chronological age while the losses of the Traditional group resulted in a test-three deficit which very nearly equaled its initial deficit. There were no statistical differences among the ITPA total performances of the three groups at the end of the third year of the study (Table 15). All groups regressed during the first-grade year. The extent of the losses of the Traditional and Ameliorative groups during the kindergarten and first-grade years exceeded the gains they had made in the preschool year. Although the Direct Verbal group was performing at its chronological age, the loss experienced by this group during the first grade exceeded its gain of the kindergarten year and does not support an encouraging language prognosis. The longitudinal data suggest that no intervention program was entirely successful in providing the necessary impetus to maintain an adequate level of language functioning in the first grade of the public schools.

### Visual Perception

The performances over the three-year period on the Frostig Developmental Test of Visual Perception are presented in Figure 12. At the end of the preschool year, the performance of the Ameliorative group was significantly higher than that of the Traditional group only (Appendix C, Table 4). During the kindergarten year, the Ameliorative and Direct Verbal groups made continuing progress and were significantly higher than the Traditional group which regressed slightly (Appendix D, Table 4). All groups made progress during the first-grade year; however, the Traditional group made a substantial gain and there were no longer significant differences among the groups (Table 16).

FIGURE II  
ITPA TOTAL LANGUAGE AGE DIFFERENCE SCORES  
THREE GROUPS FOR THREE YEARS



NOTE: THE TIMES OF THE FOUR BATTERIES ARE PLOTTED AT THE MEAN BINET CHRONOLOGICAL AGE OF THE THREE GROUPS

Table 15

ITPA Total  
Mean Language Age Difference Score in Months  
Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	-5.4	- .7	-6.1	18.29
Ameliorative	24	-3.7	-1.8	-5.5	16.98
Direct Verbal	10	-4.1	3.8	- .3	22.70

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 16

Frostig Mean PQ  
Three Groups for Three Years

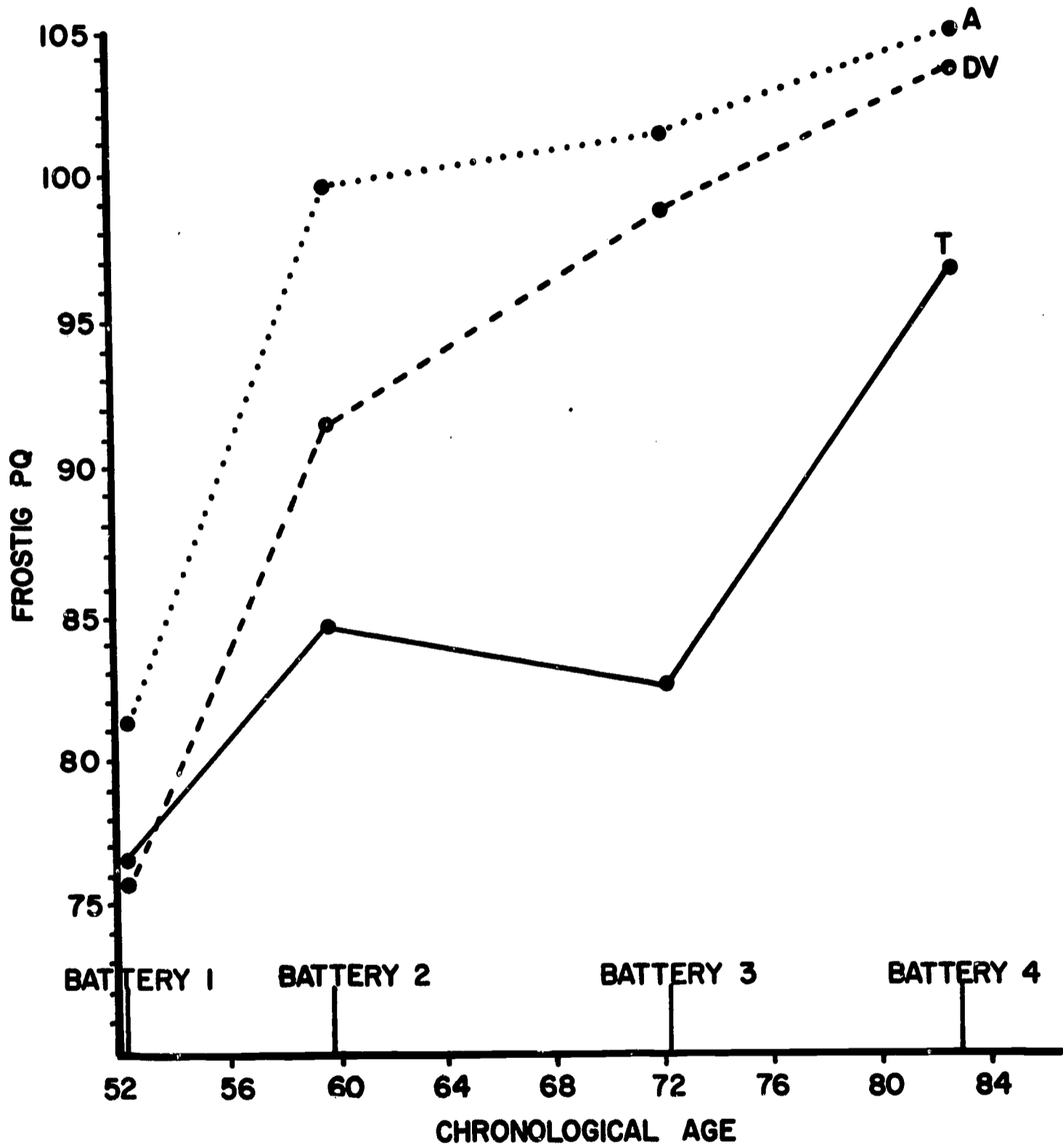
Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	76.8	19.8	96.6	4.71
Ameliorative	24	81.1	23.9	105.0	10.69
Direct Verbal	10	75.9	28.0	103.9	11.10

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.



FIGURE 12  
 FROSTIG PQ  
 THREE GROUPS FOR THREE YEARS



NOTE: THE TIMES OF THE FOUR BATTERIES ARE PLOTTED AT THE MEAN BINET CHRONOLOGICAL AGE OF THE THREE GROUPS

Frostig (1964) suggests that children whose scores fall in the lowest quartile (a perceptual quotient of 90 or below) will experience difficulty in school adjustment and recommends remedial training for these children. Initially, nearly all of the children fell in this category (Table 17). At the end of the first year, 76% of the children in the Traditional group, 30% of the children in the Direct Verbal group, and 21% of the children in the Ameliorative group obtained such scores. The percent of children in the Traditional and Direct Verbal groups who obtained scores in the lowest quartile did not change during the second year; in the Ameliorative group this percent decreased to 12. At the end of the third year, only 8% of the children in the Ameliorative group scored in the lowest quartile while 20% of the Direct Verbal children and 48% of the Traditional children earned such scores. Children who participated in the Traditional program did indeed make gains in this area in the first grade; however, the groups which participated in the structured, academically-oriented preschool programs had a considerably smaller percentage of children who might be considered prone to reading failure, to the extent that reading failures are related to visual perceptual inadequacies.

Table 17

Frostig Perceptual Quotient  
Children in the Lowest Quartile

Group	N	Preschool	Kindergarten	First Grade	
		Year	Year		
		Test 1	Test 2	Test 3	Test 4
T	25	96%	76%	76%	48%
A	24	75%	21%	12%	8%
DV	10	90%	30%	30%	20%

Summary of Results

At the end of the third year of the study, when all children were completing first grade, significant differences among the three groups were found in school achievement. The performances of the Ameliorative and Direct Verbal groups were superior to those of the Traditional group in reading, language, and arithmetic as assessed by the California Achievement Tests. There were no significant differences among the groups in intellectual functioning as measured by the Stanford-Binet, in language development as assessed by the Illinois Test of Psycholinguistic Abilities, or in visual perception as measured by the Frostig test.

over the three-year period. (Again, it is difficult to include the performance of the Direct Verbal stratum in this discussion since only three children were involved.) The modest gain of the Traditional high stratum and the substantial gain of the Ameliorative high stratum during the preschool year remained constant through the kindergarten year but were lost during the first grade (Table 13). It seems untenable to presume a factor common to these two-year interventions which explains such losses. Rather, it seems reasonable to assume that in important ways the public schools during first grade failed disadvantaged children with demonstrated potential. This assumption is further supported by the fact that 24 of the 26 children from the three intervention groups who scored 110 and above at the end of the kindergarten year scored lower on the Stanford-Binet at test four than they had on test three (a mean loss of 9 IQ points).

Since the intent of preschool intervention for disadvantaged children is to alter in positive ways later school performance, both structured programs must be judged successful. Although important interim evaluations were made, school achievement at the end of first grade was understood to be an essential criterion in program evaluation. Differences among groups in ability (intellectual functioning, language development, visual perception) no longer existed at the end of first grade, and differences in achievement must relate to the effectiveness with which groups of children used very similar abilities. Structure in the Direct Verbal and Ameliorative programs, implemented through two very different strategies, required the active involvement of teacher and child. Such activity oriented the disadvantaged child at an early age to participate effectively in highly specific learning situations and to operate in ways which made possible maximum benefits from first-grade instruction. In spite of two years of traditional preschool programming, nearly half of the children in the Traditional group obtained California scores which indicated sharply limited school achievement. Virtually all of the children in the two structured programs were making at least adequate academic progress (Tables 5 and 8). The differential achievement level demonstrates the potential for school success among disadvantaged children which can be developed through structured preschool experiences. Functioning effectively in the public school setting is a critical first step in altering the life circumstances of the disadvantaged child to the end that he may participate more fully in the educational and economic opportunities of a democratic culture.

**THE AMELIORATIVE PROGRAM  
WITH CHILD AND  
STAFF VARIABLES**

Earlier Intervention: Effects of the Ameliorative  
Program Initiated with Three-Year-Old Children  
and Maintained for Two Years

Merle B. Karnes, Audrey S. Hodgins  
and James A. Teska

The years immediately following infancy, J. McVicker Hunt (1964) has maintained, are those when an adverse environment is most likely to inhibit language development and to prevent optimal intellectual functioning. It seems plausible, therefore, that preschool intervention for disadvantaged children should begin even before the presently accepted age of four. David Weikart (1967) has come to similar conclusions and suggested in a recent survey of current preschool programs that intervention before the age of four and the development of structured programs which emphasize cognitive and language development are necessary to achieve accelerated child growth. This study, based on similar assumptions, was concerned with the effects of the Ameliorative program when initiated with three-year-old disadvantaged children and maintained over a two-year period. The progress of the three-year-old children after one year in the Ameliorative program was compared to that of the four-year-old children who had been enrolled in the previous Ameliorative program.<sup>1</sup> At the end of the second year of the study, the progress of the children who participated in the Ameliorative program for two years (as three-year-olds and as four-year-olds) was again compared to that of the children who had participated in the Ameliorative program for only one year (as four-year-olds).

METHODOLOGY

Recruitment procedures were the same as those employed in the earlier studies (p. 59), except that the children were three years old before the first of December, an age appropriate for enrollment in the public kindergarten in two years. Race and sex ratios and the three intelligence strata class design were maintained (Table 1).

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<sup>1</sup>A comparison of the progress of the three-year-old children after one year in the Ameliorative program with that of a control group of three-year-old children who received no educational intervention appears in Karnes, Hodgins, Stoneburner, Studley, and Teska (1968).

Table 1

Initial Group Composition

Age of Initiation of Ameliorative Program	N*	Mean Binet CA	Mean Binet IQ	Intelligence Strata Means						Race		Sex	
				High	N	Middle	N	Low	N	Caucasian	Negro	M	F
3 Years	15	37.9	94.7	106.2	4	94.6	7	83.2	4	5	10	7	8
4 Years	27	51.9	96.0	107.2	9	95.1	10	84.4	8	9	18	13	14

\*Four children withdrew from the program during the first year, and no data for these children are included in this study.

Since the Ameliorative program had been developed as a one-year intervention for four-year-old children, a number of accommodations were necessary to use this program with three-year-olds over a two-year period. During the first year, material was presented at a slower rate and concepts were introduced at their simplest levels. More time was required to develop basic labeling vocabulary on which associative and classifying skills could later be built. Fine motor activities received greater attention. Fewer units of work were introduced in the three curricular areas, particularly in mathematics, so that more time could be spent developing the concrete mathematical operations of sorting, matching, and ordering. During the second year, units of work not taught the first year were covered and new units were added, particularly in the social studies-science curriculum. Although the basic Ameliorative program was repeated, units which had been taught at a minimal level the first year were expanded the second year beyond the level reached by other Ameliorative classes for four-year-olds. The teacher-pupil ratio (1:5) and the daily schedule of the previous Ameliorative program were maintained over the two years. (See pp. 52-55.)

#### RESULTS AFTER ONE YEAR

Statistical treatment of the Binet, Peabody, Frostig, and ITPA total data employed a multivariate analysis of covariance using initial Binet, Peabody, and ITPA total scores as covariates. Since the Frostig was not included in the pre-battery for three-year-old children, these data were not available for use as a covariate. The F ratio for the multivariate test of equality of mean vectors on these four instruments revealed no significant differences between the progress made by the three-year-old children during one year in the Ameliorative program and that made by four-year-old children in one year (Table 2). Both raw and covaried means indicate a remarkable similarity between these ratio scores of the two groups.

A separate analysis of covariance was conducted on the ITPA subtest data, using initial scores from the nine subtests as covariates. The F ratio for the multivariate test of equality of mean vectors was significant (Table 3). An examination of the univariate F's revealed significant differences below the .05 level on three subtests. On two of these subtests (Auditory-Vocal Automatic and Motor Encoding) both groups had sizeable and comparable initial deficits, and in both instances the progress made by the four-year-old children in one year was clearly superior and resulted in a nondeficit performance. The three-year-old children made no appreciable progress on these two subtests during the first year of the Ameliorative program, and it seems reasonable to conclude that these aspects of language development were not amenable to amelioration at the age of three. The third

Table 2

Multivariate Analysis of Covariance for the Total Battery  
at the End of One Year

F ratio for multivariate test of equality of mean vectors = 2.1292 df = 4 and 34 P less than .0986									
Variable	Age of Initiation of Ameliorative Program	N	Pre- Test Mean	diff.	Mean After One Year	Covaried Mean	Between Mean Sq.	Univariate F	P less than
Binet IQ	3 years	15	94.7	16.7	111.4	25.79	111.8019	2.9235	.0957
	4 years	27	96.0	14.3	110.3	22.09			
Peabody IQ	3 years	15	72.7	11.2	83.9	38.00	503.0145	2.7214	.1075
	4 years	27	85.9	10.2	96.1	45.86			
Frostig PQ	3 years	15			88.0	30.54	446.6140	3.3628	.0748
	4 years	27			99.1	37.94			
ITPA Total Lang. Age Difference Score	3 years	15	-5.3	6.9	1.6	44.60	6.4719	.3204	.5748
	4 years	27	-3.3	6.3	3.0	43.71			

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates. To relate language age to chronological age, a difference score was computed by subtracting a child's chronological age at the time of testing from his language age score.

Table 3

Multivariate Analysis of Covariance for the Nine ITPA Subtests  
at the End of One Year

F ratio for multivariate test of equality of mean vectors = 4.0166 df = 9 and 23 P less than .0034									
Variable	Age of Initiation of Ameliorative Program	N	Pre- Test Mean	diff. Mean	After One Year	Covaried Mean	Between Mean Sq.	Univariate F	P less than
Auditory-Vocal Automatic	3 years	15	- 8.1	- .5	- 8.6	- 9.14	853.3294	5.4956	.0257
	4 years	27	-10.8	10.8	0.0	3.84			
Visual Decoding	3 years	15	- 2.8	5.3	2.5	- 6.64	508.4380	3.3048	.0788
	4 years	27	- .2	12.1	11.9	3.37			
Motor Encoding	3 years	15	- 5.9	.8	- 5.1	60.00	972.5763	5.6144	.0243
	4 years	27	- 6.6	6.8	.2	73.85			
Auditory-Vocal Association	3 years	15	- 8.1	6.7	- 1.4	2.49	11.2923	.2354	.6310
	4 years	27	- 5.4	6.8	1.4	3.99			
Visual-Motor Sequencing	3 years	15	2.6	4.2	6.8	69.64	105.9654	1.5151	.2277
	4 years	27	- 6.4	7.9	1.5	65.07			
Vocal Encoding	3 years	15	- 8.4	9.0	.6	44.75	13.6274	.1034	.7500
	4 years	27	-13.6	11.3	- 2.3	43.11			
Auditory-Vocal Sequencing	3 years	15	- 1.4	2.4	1.0	1.08	110.2467	1.1393	.2941
	4 years	27	.9	5.3	6.2	5.74			
Visual-Motor Association	3 years	15	- 4.1	12.6	8.5	77.18	670.8057	4.7079	.0379
	4 years	27	9.9	.8	10.7	88.69			
Auditory Decoding	3 years	15	- 4.2	10.5	6.3	25.47	326.6578	3.9479	.0559
	4 years	27	1.9	.6	2.5	17.44			

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.



significant difference in favor of the four-year-old children was obtained on the Visual-Motor Association subtest. An examination of the means reveals that the higher final score of the four-year-old group is merely a reflection of its atypically high initial score rather than an indication of progress, and in spite of the very substantial gain (13 months in excess of the program interval) made by the three-year-old children in one year, they did not reach the level of the four-year-old children.

#### POST-INTERVENTION RESULTS

The analysis of covariance for the total battery at the end of the intervention employed the same covariates used in the first year's analysis (Binet, Peabody, and ITPA total scores). Peabody data were not available at the end of the second year for the early intervention group because this instrument had been eliminated from the evaluation battery. The F ratio for the multivariate test of equality of mean vectors indicated no significant difference between the two groups on this battery (Table 4). The progress made in two years by children who began the Ameliorative program at the age of three was not superior to that made in one year by children who began the program at the age of four. Doubling the length of intervention with apparently appropriate program accommodations had no appreciable impact, and, in fact, a five point Binet IQ regression occurred during the second year. The performances of the two groups on the ITPA total and the Metropolitan Readiness Tests were nearly identical, and only on the Frostig Developmental Test of Visual Perception did the early intervention group continue to make accelerated progress during the second year. Their Frostig scores at the end of the second year, however, did not reflect greater gains than those made by the four-year-old children in one year.

The F ratio for the multivariate test of equality of mean vectors revealed no significant difference between the two groups on the nine ITPA subtests on this battery (Table 5). A discussion of subtest interactions on this basis is not warranted; however, atypical performances on two subtests (Auditory-Vocal Automatic and Vocal Encoding) merit comment, particularly since these subtests represent two of the three critical areas of language deficit for disadvantaged preschool children. During their first year, the children in the early intervention group made no gain on the Auditory-Vocal Automatic subtest and remained substantially deficit on this subtest. A deteriorating performance during the second year of the program increased the magnitude of this deficit to twelve months below their chronological age. This regressive performance is disconcerting because verbal abilities represent a crucial area and is difficult to understand in light of the exceptionally high Vocal Encoding scores earned by this same group. At the end of one year of intervention, the deficit in Vocal Encoding of the three-year-old children had been eliminated,

Table 4

Multivariate Analysis of Covariance for the Total Battery  
at the Post-Intervention Testing

(Two-Year Intervention for Three-Year-Olds and One-Year Intervention for Four-Year-Olds)

F ratio for multivariate test of equality of mean vectors = .5787 df = 5 and 31 P less than .7159									
Variable	Age of Initiation of Ameliorative Program	N	Pre- Test Mean	diff.	Post- Intervention Mean	Covaried Mean	Between Mean Sq.	Univariate F	P less than
Binet IQ	3 years	13*	94.8	12.0	106.8	14.00	7.3030	.1941	.6623
	4 years	27	96.0	14.3	110.3	14.98			
Peabody IQ	3 years	13	73.9				95.4150	.7531	.3914
	4 years	27	85.9						
Frostig PQ	3 years	13			99.1	36.47	95.4150	.7531	.3914
	4 years	27			99.1	32.95			
ITPA Total Language Age Difference Score	3 years	13	-5.0	6.5	1.5	46.44	.3791	.0237	.8785
	4 years	27	-3.3	6.3	3.0	46.22			
Metropolitan Reading Raw Score	3 years	13			38.4	-19.30	18.5940	.4982	.4850
	4 years	27			40.7	-20.86			
Metropolitan Number Raw Score	3 years	13			8.8	-11.60	8.4269	.7141	.4039
	4 years	27			10.7	-10.55			

NOTE: Initial Binet IQ, Peabody IQ, and ITPA total language age difference scores (in months) were used as covariates.

\*Two children withdrew before the end of the second year, and no data for these children are included in the post-intervention analysis.

Table 5

Multivariate Analysis of Covariance for the Nine ITPA Subtests  
at the Post-Intervention Testing

(Two-Year Intervention for Three-Year-Olds and One-Year Intervention for Four-Year-Olds)

F ratio for multivariate test of equality of mean vectors = 1.3333 df = 9 and 21 P less than .2789																																																																																																																																					
Variable	Age of Initiation of Ameliorative Program	N	Pre- Test Mean	diff.	Post- Intervention Mean	Covaried Mean	Between Mean Sq.	Univariate F	P less than																																																																																																																												
Auditory-Vocal Automatic	3 years	13*	- 8.3	-3.5	-11.8	- 5.93	1179.0691	7.2496	.0117																																																																																																																												
	4 years	27	-10.8	10.8	0.0	10.06				Visual Decoding	3 years	13	- 3.4	11.2	7.8	-22.71	114.4113	.5662	.4579	4 years	27	- .2	12.1	11.9	-17.73	Motor Encoding	3 years	13	- 5.4	2.2	- 3.2	43.59	568.3051	2.4246	.1303	4 years	27	- 6.6	6.8	.2	54.69	Auditory-Vocal Association	3 years	13	- 7.8	9.1	1.3	- 6.29	4.5196	.0896	.7669	4 years	27	- 5.4	6.8	1.4	- 5.30	Visual-Motor Sequencing	3 years	13	4.3	-2.3	2.0	66.13	.1137	.0021	.9642	4 years	27	- 6.4	7.9	1.5	65.97	Vocal Encoding	3 years	13	- 8.6	14.4	5.8	57.44	132.2881	.8995	.3508	4 years	27	-13.6	11.3	- 2.3	52.08	Auditory-Vocal Sequencing	3 years	13	- 1.3	6.0	4.7	22.28	42.0399	.2692	.6079	4 years	27	.9	5.3	6.2	25.30	Visual-Motor Association	3 years	13	- 4.7	16.2	11.5	67.08	233.4922	1.3943	.2473	4 years	27	9.9	.8	10.7	74.20	Auditory Decoding	3 years	13	- 3.2	2.6	- .6	27.33	1.0134	.0265	.8720	4 years	27
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NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

\*Two children withdrew before the end of the second year, and no data for these children are included in the post-intervention analysis.

and three- and four-year-olds did equally well in relation to their respective chronological ages. During its second year in the Ameliorative program, however, the early intervention group again made a substantial gain (5 months) and attained the highest mean Vocal Encoding score of any group at any time in the larger research project.

At the end of the second year of the study neither analysis supported the premise that earlier intervention would enhance the performance of children in the Ameliorative program. The progress of children who participated in the program for two years (as three-year-olds and as four-year-olds) did not differ significantly from that made by children who had participated in the program for only one year (as four-year-olds).

#### DISCUSSION

The results at the end of the first year of the study generally endorsed the earlier initiation of the Ameliorative program. The first-year gains of the younger group essentially matched the remarkable gains made previously by the four-year-old children in the Ameliorative program. After one year of intervention only one three-year-old child had a Binet IQ (95) below 105. On seven of the nine ITPA subtests this group was performing at or above its chronological age; on three of these seven this group was performing substantially (6 to 8 months) above its chronological age. Apparently the Ameliorative program as accommodated for three-year-old children was appropriate and highly effective.

This acceleration did not continue during the second year, but the gains made during the first year were essentially maintained. The acceleration achieved in one year represented a movement from deficit to nondeficit levels of functioning, and it may have been unrealistic to assume that such acceleration could be continued. Maintaining an essentially nondeficit performance may in itself represent a major achievement, particularly in view of the tendency of disadvantaged children in this and other projects to fail to maintain very promising first-year gains. The accelerated rate of growth achieved during the first year and the demonstrated stability of these gains the second year suggest an optimistic school prognosis for these children.

The Effects of Short-Term Instruction at Home  
by Mothers of Children not Enrolled  
in a Preschool<sup>1</sup>

Merle B. Karnes, Audrey S. Hodgins,  
and James A. Teska

Preschool programs are recognized as one effective approach for helping disadvantaged children compensate for a lack of early experiences appropriate to later academic achievement, but such programs cannot alter the learning environment at home. Since the particular cognitive style of the low-income, low-educational level family (Ausubel, 1966; Deutsch, 1963; Hunt, 1964; Riessman, 1962) may be perpetuated from generation to generation, parental involvement in the child's early learning is crucial. Programs which have moved in this direction have generally provided parents with information regarding child-rearing practices, child development, and school readiness (Kirk, 1958; Brazziel and Terrell, 1962; Crow, Murry, and Smythe, 1966; Fusco, 1964; Liddle, 1963; Weikart, Kami, and Radin, 1966). Typically these programs were developed as an integral part of an overall preschool program, and, therefore, it has been difficult to determine the discrete impact of programmed parental intervention on specific aspects of child development.

This study was designed to isolate the effects of short-term, at-home instruction by mothers on the intellectual and language development of their children. Neither experimental nor control children were enrolled in a preschool, and only the mothers of the experimental children were enrolled in a twelve-week training program designed to help them make instructional materials and to learn to use these materials to teach their children at home. It was hypothesized that preschool children of mothers in the training program would demonstrate gains in intellectual functioning and language development significantly greater than those shown by children whose mothers were not involved in a training program. Instruments used for pre- and post-evaluation were the Stanford-Binet Individual Intelligence Scale (1960 edition) and the Illinois Test of Psycholinguistic Abilities (experimental edition, 1961).

#### METHOD

##### Subjects

Subjects were selected from families who lived in an economically depressed area and had been referred by the principal of

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<sup>1</sup>Portions of this report first appeared in Karnes, Studley, Wright, and Hodgins (1968).

the neighborhood elementary school. All families were known to the principal and judged by her to be among the most economically and educationally deprived. All participants were Negro because the school used as a basis for recruitment had only one Caucasian pupil. Children were to be four years old before December first. Current attendance at a preschool disqualified a child.

The Stanford-Binet Individual Intelligence Scale and the Illinois Test of Psycholinguistic Abilities were administered to these children by school psychologists in classrooms unfamiliar to all children. After the initial test battery, a control and an experimental group (N=15) were established with comparable mean intelligence quotients and sex ratios (Table 1).

Table 1

Initial Group Composition

Group	N*	Mean Binet CA	Mean Binet IQ	Sex	
				Male	Female
Experimental	12	45.8	90.8	7	5
Control	12	45.3	96.0	8	4

\*Six children withdrew or were eliminated from the study before the posttest because they enrolled in preschool, moved from the community, or had inaccurately recorded birthdates and were, therefore, ineligible for the study. No data for these children are included in this report.

Intervention

The mothers of the experimental children attended eleven weekly two-hour meetings at the neighborhood elementary school. (In one case, a grandmother responsible for the child's care participated.) Three experienced preschool teachers conducted the meetings, and each teacher worked closely with a group of five mothers. As part of the project staff, mothers were paid \$3.00 a session but received no remuneration for the time spent working with their children at home. The teachers encouraged the mothers to feel that they were an important part of an educational team and stressed the immediate benefits to the participating children as well as the potential benefits to other children of the research.

At the beginning of each session the mothers made educational materials to use during the following week in teaching their children at home. Inexpensive materials or items commonly found in the home were incorporated into these activities: a sock

puppet; a homemade flannel board; lotto and matching games which used gummed seals, geometric shapes, and color chips; counting books made from magazine pictures; sorting and matching activities using miscellaneous household items and an egg carton for a sorting tray; classifying activities based on pictures cut from furniture and clothing catalogs. The teachers taught the mothers appropriate songs and finger plays and distributed copies of the words as a teaching aid at home. In addition, books and puzzles were available on a lending-library basis. Generally, materials were chosen to stress useful vocabulary, basic manipulative skills, and math readiness concepts. Language development was the major emphasis of all activities which were designed to teach the child the words he needs to label the objects in his immediate environment, to make more precise verbal observations, to generalize, to use grammatically correct forms, to understand and to ask questions, and to formulate answers.

The teachers worked to achieve cooperative planning and to incorporate suggestions from the group. They discouraged the view that teachers are authority figures who issue directions. During a coffee break, mothers informally reported on their success or difficulty with the previous week's teaching assignment. They discussed differences among their children and ways in which the materials might be adapted. The teachers emphasized the importance of repeating and extending the use of materials made earlier in the program. For example, mothers taught their children the names of five geometric shapes by using cutouts and a felt board and later used these same materials for color and counting exercises. Mothers recorded the time spent daily working with their children on the various teaching assignments and turned in these checklists the following week.

An average of seven mothers attended each meeting. When a mother was absent, the other mothers made the materials for her and the teacher delivered these and the instructions for their use to the home the following week. In addition, the teacher visited each home at two-week intervals to become acquainted with the child, to demonstrate teaching techniques, to evaluate the appropriateness of the activities by observing mother and child at work, and to assess the extent to which mothers were working with their children.

## RESULTS

### Intellectual Functioning

The results of the study confirm the hypothesis that the experimental subjects would evidence gains in intellectual functioning as measured by the Stanford-Binet Individual Intelligence Scale significantly greater than those made by the control subjects. The mean gain of the experimental group was 7 points,

while the control group made no gain (Table 2).

Table 2

Stanford-Binet Mean IQ

Group	N	Test 1	Diff.	Test 2
Experimental	12	90.8	7.0	97.8
Control	12	96.0	- .2	95.8
Difference		5.2	7.2	- 2.0
t		1.10	2.13	.45
Level of Significance		NS	.025*	NS*

\*One-tailed t test

Two children in the experimental group scored lower (two and eight points) at the time of test two than they had at test one. Six children in the control group regressed from one to ten points. Four experimental subjects made substantial gains, from thirteen to twenty-eight points; no control subject made a gain of more than ten points. In a short-term study, this pattern of relatively large gains coupled with relatively few regressions is encouraging and supports the premise that these mothers were effective in stimulating the intellectual development of their children at home.

Language Development

Initially, both groups obtained scores below their mean chronological ages on all ITPA subtests except Auditory-Vocal Sequencing. The areas of greatest deficit were those representing verbal expressive abilities (Auditory-Vocal Automatic, Auditory-Vocal Association, Vocal Encoding) and Motor Encoding and Visual-Motor Sequencing. Although there were no significant differences between the initial performances of the groups, the control group was less deficit on all ITPA subtests. Its pretest performances were from one to seven months less deficit than those of the experimental group, and there was a trend (.10) in favor of the control group on the Auditory-Vocal Association subtest. Although there were no significant differences between the groups on the posttest, their relative positions were generally reversed. The experimental group now scored from one to seven months higher than the control group on five of the nine subtests (Table 3 and Figure 1).



Table 3

Illinois Test of Psycholinguistic Abilities  
Mean Language Age Difference Score

Variable	Group*	Test 1	Test 2	Gain	Diff in Gains	t	Level of Significance One-Tailed
Auditory-Vocal Automatic	Experimental	-13.0	- 8.3	4.7	4.3	.95	NS
	Control	-11.8	-11.4	.4			
Visual Decoding	Experimental	- 7.6	.8	8.4	6.8	1.55	.10
	Control	- 2.3	- .7	1.6			
Motor Encoding	Experimental	- 8.6	- 9.1	- .5	-3.8		
	Control	- 6.5	- 3.2	3.3			
Auditory-Vocal Association	Experimental	-13.0**	- 9.0	4.0	3.1	1.05	NS
	Control	- 6.1	- 5.2	.9			
Visual-Motor Sequencing	Experimental	- 8.2	4.4	12.6	6.9	1.17	NS
	Control	- 5.4	.3	5.7			
Vocal Encoding	Experimental	-15.6	-11.8	3.8	1.6	.46	NS
	Control	-10.9	- 8.7	2.2			
Auditory-Vocal Sequencing	Experimental	5.0	11.8	6.8	7.9	1.66	.10
	Control	6.3	5.2	-1.1			
Visual-Motor Association	Experimental	- 6.8	- 2.4	4.4	7.6	1.55	.10
	Control	- .3	- 3.5	-3.2			
Auditory Decoding	Experimental	- 4.3	- 1.2	3.1	- .7		
	Control	- 3.4	.4	3.8			
ITPA Total	Experimental	- 8.0	- 2.4	5.6	4.3	1.52	.10
	Control	- 4.4	- 3.1	1.3			

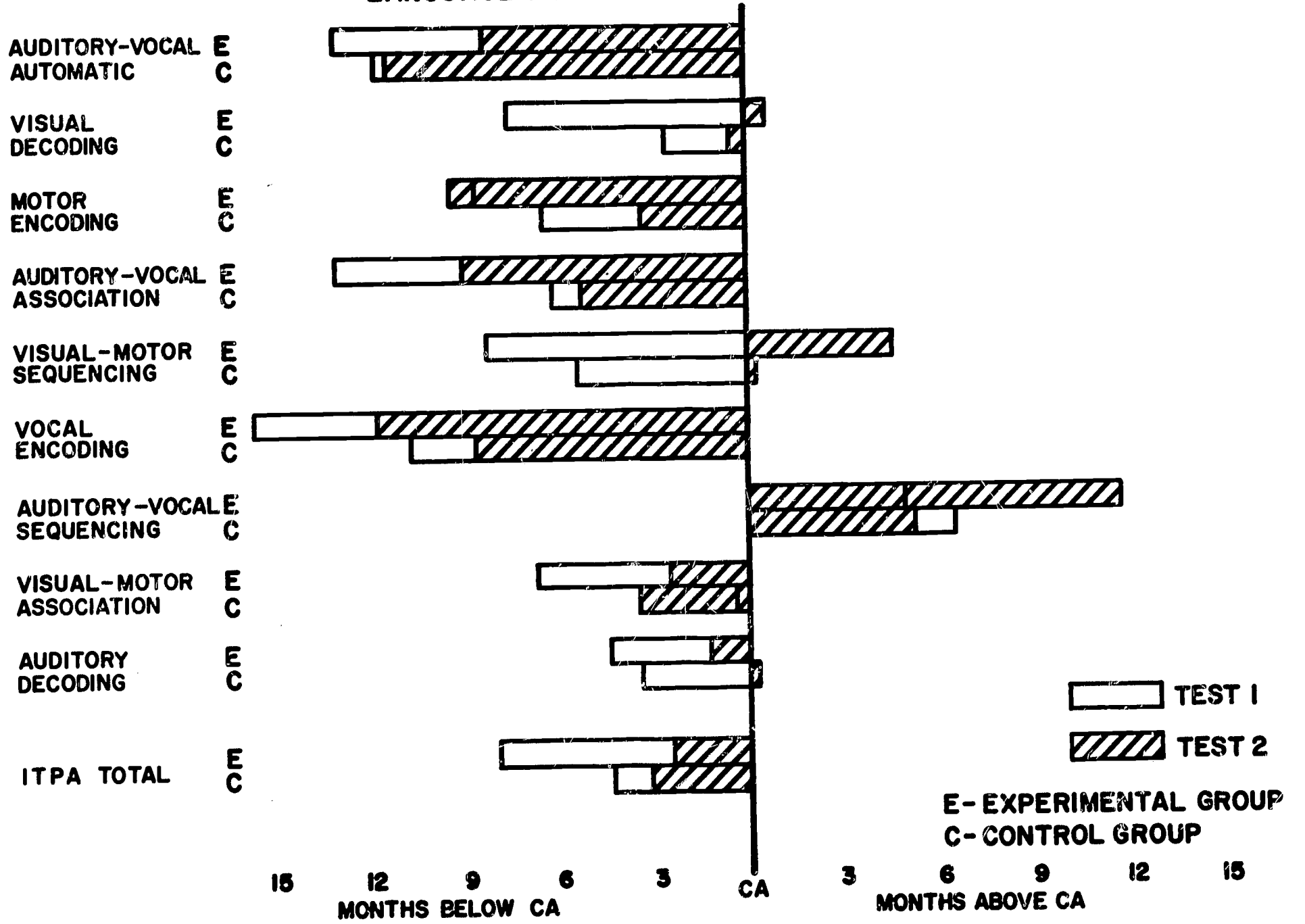
NOTE: To relate language age to chronological age, difference scores (in months) were computed by subtracting a child's chronological age at the time of testing from his language age.

\* Complete ITPA data were not available for three children. The N for the Experimental group is 11; the N for the control group is 10.

\*\*A significant difference at the .10 level on Test 1.

FIGURE 1

ILLINOIS TEST OF PSYCHOLINGUISTIC ABILITIES  
LANGUAGE AGE DIFFERENCE SCORES IN MONTHS



It had been hypothesized that the experimental subjects would make gains in language development significantly greater than those of the control subjects. The results do not clearly confirm this hypothesis. There were no significant differences in favor of the experimental group in gains on any subtest; however, on three subtests and the ITPA total there was a trend (.10) in their favor. The gains of the experimental group exceeded those of the control group by two to eight months on seven of the nine subtests and on all subtests of major initial deficit except Motor Encoding. On eight of the nine subtests the gains of the experimental group were at least twice the program interval of approximately three months. The control group achieved this level of gain on only three subtests.

#### DISCUSSION

This intervention, teaching mothers to make educational activities from low-cost materials to use at home, was not determined by budgetary requirements; rather, it was chosen as an appropriate means of insuring the mother's active participation in the meeting and her effective teaching at home. Since she had made the materials herself and understood their educational function, she approached the teaching of her child with confidence and enthusiasm. The practical nature of this program in terms of facilities, personnel, and budget does, however, increase its potential for reaching increased numbers of children. In communities where funds and facilities are limited, a mother-training program could provide an appropriate alternative to a preschool experience for disadvantaged children. In areas of sparse population, it might prove more feasible to transport mothers on a weekly basis than children on a daily basis. The results of this study, particularly in view of its short-term nature, are encouraging and seem to be a clear demonstration that mothers can be effectively involved in direct educational intervention with their preschool children at home.

**The Impact of At-Home Instruction by Mothers  
on Performance in the Ameliorative Preschool**

Merle B. Karnes, Audrey S. Hodgins,  
and James A. Teska

Because of the encouraging results obtained in the twelve-week study (The Effects of Short-Term Instruction at Home by Mothers, pp. 197-203) and in order to develop a more positive relationship between home and preschool, the mother-involvement program was expanded the following year and coordinated with the child's participation in the Ameliorative preschool. It was expected that children whose mothers worked with them at home in areas related to those taught at the preschool would make additional progress. The evaluation, therefore, involved a comparison of the progress of children taught by their mothers at home and by teachers at the preschool with that of the earlier group of children who had received instruction only in the preschool. The specific intent of this study was to determine areas in which instruction by mothers influenced performance.

METHOD

The Ameliorative program provided all children in this study has been described previously (pp. 52-55). The mother-involvement program was conducted along the lines of the earlier, short-term study. Again mothers were paid \$3.00 to attend weekly, two-hour meetings but received no remuneration for the additional time spent working with their children at home. The three teachers who conducted the meetings for mothers also taught these children at the preschool and made a major effort to coordinate the teaching efforts at home with those at school. Mothers were encouraged to feel that their assistance was needed to support and extend the educational goal of the preschool. Materials were chosen to reinforce specific content currently being taught in the Ameliorative classroom and generally to emphasize language development, basic visual-motor skills, and math readiness concepts. At the beginning of each meeting mothers again made instructional materials to use during the following week in teaching their children at home: activities which stressed labeling, sorting, and classifying; number-object association; opposites; and numeral and alphabet recognition. A discussion of appropriate ways to use these materials at home followed each work period as did an informal report on success or difficulty with the previous week's teaching assignment. When a mother was absent, the other mothers made the materials for her, and the teachers delivered these and the instructions for their use to the home the following day. Books, games, and puzzles were available on a lending-library basis for the mothers to take home.

An additional dimension to the mother-involvement meetings, primarily made possible by the extended length of the program (from twelve weeks to seven months), was an emphasis on broader community interactions. Mothers became acquainted with and were helped to use available community resources. Occasional meetings were given over to these experiences: a visit to the public library which included an introduction to the children's library, an explanation of book-mobile services, and the acquisition of library cards; a visit to the University art museum where mothers saw in the evening the same exhibit which their children had enjoyed that afternoon during a preschool field trip; attendance at the city council meeting when open housing was to be discussed.

Although a child's acceptance into this program was contingent upon his mother's willingness to participate in the meetings, a child was not later excluded from the program when his mother failed to attend. About half of the mothers were present at a typical meeting, and about one-fourth essentially did not participate in the mother-involvement program. It is important to keep in mind, however, that when a mother was absent the materials were delivered to her home. Teachers felt that this follow-up visit was imperative in maintaining the involvement of the mothers. Thus, a mother who may have had poor attendance for very legitimate reasons (the arrival of a new baby, major surgery and hospitalization, working hours which conflicted with meeting dates) could implement the essential goals of the program with her child at home.

Recruitment procedures were the same as those employed in the earlier studies. Race and sex ratios and the three intelligence strata were maintained for the two Ameliorative classes which incorporated the mother-involvement program in consecutive years (Table 1).

## RESULTS

Statistical treatment of the Binet, Frostig, ITPA total, and Metropolitan data employed a multivariate analysis of covariance using initial Binet and ITPA total scores as covariates. Since the Frostig was not included in the pre-battery for the mother-involvement group, these data were not available for use as a covariate. The F ratio for the multivariate test approached but failed to reach significance, and an examination of the univariate F's and the five sets of test scores revealed very similar performances between groups on all instruments except the ITPA (Table 2). The origin of the one differential performance was clearly shown on the multivariate analysis of ITPA subtests where the F ratio reached statistical significance (Table 3). On four subtests the differences between the two groups reached significance in favor of the children who participated only in the Ameliorative preschool and whose mothers did not participate in weekly meetings and at-home instruction. Two of these subtests (Visual-Motor Association and Visual Decoding)

Table 1

Initial Group Composition  
Ameliorative Intervention With Mother Involvement and Without

Group	N	Mean Binet CA	Mean Binet IQ	Intelligence Strata Means				Race		Sex			
				High	N	Middle	N	Low	N	Caucasian	Negro	M	F
With	31*	48.4	94.5	106.0	9	93.9	12	84.8	10	10	21	17	14
Without	27**	51.9	96.0	107.2	9	95.1	10	84.4	8	9	18	13	14

\*Class units established after the first year of the larger research project consisted of 16 children. One child withdrew from this group during the first year, and no data for this child is included in this study. One of these class units was funded through the Office of Economic Opportunity for the Leadership Development Program for Administrators of Preschool Centers for the Disadvantaged, Grants CG 8884 and CG 8889.

\*\*Three children withdrew from this group before the end of the year, and no data for these children are included in this study.

Table 2

Multivariate Analysis of Covariance for the Total Battery  
Ameliorative Intervention With Mother Involvement and Without

F ratio for multivariate test of equality of mean vectors = 2.1844  
df = 5 and 50 P less than .0707

Variable	Group	N	Test 1 Mean	Test 1 difference	Test 2 Mean	Covaried Mean	Between Mean Square	Univariate F	P Less than																																																												
Binet IQ	With	31	94.5	11.8	106.3	21.43	78.6174	1.2920	.2608																																																												
	Without	27	96.0	14.3	110.3	23.80				Frostig PQ	With	31			96.1	45.10	51.7548	.3556	.5535	Without	27			99.1	47.02	ITPA Total Language Age Difference Score	With	31	-5.6	3.8	- 1.8	43.79	187.3809	8.2525	.0059	Without	27	-3.3	6.3	3.0	47.46	Metropolitan Reading Readiness Raw Score	With	31			41.5	-7.79	50.0887	.7541	.3891	Without	27			40.7	-9.69	Metropolitan Number Readiness Raw Score	With	31			10.7	-11.65	2.5900	.2135	.6460	Without	27
Frostig PQ	With	31			96.1	45.10	51.7548	.3556	.5535																																																												
	Without	27			99.1	47.02				ITPA Total Language Age Difference Score	With	31	-5.6	3.8	- 1.8	43.79	187.3809	8.2525	.0059	Without	27	-3.3	6.3	3.0	47.46	Metropolitan Reading Readiness Raw Score	With	31			41.5	-7.79	50.0887	.7541	.3891	Without	27			40.7	-9.69	Metropolitan Number Readiness Raw Score	With	31			10.7	-11.65	2.5900	.2135	.6460	Without	27			10.7	-12.08												
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	Without	27			10.7	-12.08																																																															

NOTE: Initial Binet IQ and ITPA total language age difference scores were used as covariates. To relate language age scores to chronological age, a difference score (in months) was computed by subtracting a child's chronological age at the time of testing from his language age score.

Table 3

Multivariate Analysis of Covariance for the Nine ITPA Subtests  
Ameliorative Intervention With Mother Involvement and Without

F ratio for multivariate test of equality of mean vectors = 2.3949 df = 9 and 39 P less than .0288																																																																																																																																					
Variable	Group	N	Test 1 Mean	Test 1 difference	Test 2 Mean	Covaried Mean	Between Mean Square	Univariate F	P Less than																																																																																																																												
Auditory-Vocal Automatic	With	31	-12.1	1.4	-10.7	-25.36	761.5370	6.4426	.0146																																																																																																																												
	Without	27	-10.8	10.8	0.0	-16.56				Visual Decoding	With	31	- 2.6	7.3	4.7	70.65	856.8069	4.4255	.0408	Without	27	- .2	12.1	11.9	79.99	Motor Encoding	With	31	- 7.0	3.4	- 3.6	33.93	339.2067	1.6651	.2033	Without	27	- 6.6	6.8	.2	39.81	Auditory-Vocal Association	With	31	-10.3	7.8	- 2.5	41.63	85.4575	1.2418	.2708	Without	27	- 5.4	6.8	1.4	44.58	Visual-Motor Sequencing	With	31	- 2.7	2.9	.2	70.01	21.7058	.3067	.5824	Without	27	- 6.4	7.9	1.5	68.52	Vocal Encoding	With	31	-10.9	3.8	- 7.1	41.95	870.9076	4.9519	.0309	Without	27	-13.6	11.3	- 2.3	51.37	Auditory-Vocal Sequencing	With	31	3.0	-1.0	2.0	3.42	114.4379	.9944	.3238	Without	27	.9	5.3	6.2	6.83	Visual-Motor Association	With	31	- .5	4.2	3.7	52.55	898.5444	4.0816	.0491	Without	27	9.9	.8	10.7	62.12	Auditory Decoding	With	31	- 4.7	- 2.6	- 2.1	35.25	79.6689	.7277	.3980	Without	27
Visual Decoding	With	31	- 2.6	7.3	4.7	70.65	856.8069	4.4255	.0408																																																																																																																												
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Visual-Motor Sequencing	With	31	- 2.7	2.9	.2	70.01	21.7058	.3067	.5824																																																																																																																												
	Without	27	- 6.4	7.9	1.5	68.52				Vocal Encoding	With	31	-10.9	3.8	- 7.1	41.95	870.9076	4.9519	.0309	Without	27	-13.6	11.3	- 2.3	51.37	Auditory-Vocal Sequencing	With	31	3.0	-1.0	2.0	3.42	114.4379	.9944	.3238	Without	27	.9	5.3	6.2	6.83	Visual-Motor Association	With	31	- .5	4.2	3.7	52.55	898.5444	4.0816	.0491	Without	27	9.9	.8	10.7	62.12	Auditory Decoding	With	31	- 4.7	- 2.6	- 2.1	35.25	79.6689	.7277	.3980	Without	27	1.9	.6	2.5	38.09																																																												
Vocal Encoding	With	31	-10.9	3.8	- 7.1	41.95	870.9076	4.9519	.0309																																																																																																																												
	Without	27	-13.6	11.3	- 2.3	51.37				Auditory-Vocal Sequencing	With	31	3.0	-1.0	2.0	3.42	114.4379	.9944	.3238	Without	27	.9	5.3	6.2	6.83	Visual-Motor Association	With	31	- .5	4.2	3.7	52.55	898.5444	4.0816	.0491	Without	27	9.9	.8	10.7	62.12	Auditory Decoding	With	31	- 4.7	- 2.6	- 2.1	35.25	79.6689	.7277	.3980	Without	27	1.9	.6	2.5	38.09																																																																												
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NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.



emphasize visual skills, an area in which the disadvantaged children in this study (as well as in other class units in the larger research project) showed no substantial initial deficit. The other two subtests (Auditory-Vocal Automatic and Vocal Encoding) require verbal expressive abilities and represent an area of major and critical deficit for the disadvantaged children in this study and in the larger research project.

The statistically significant difference on the Visual-Motor Association subtest in favor of the group which participated only in the Ameliorative program is somewhat misleading, and it cannot be inferred that this group made greater progress during the program interval. This group obtained a mean initial score ten months above its chronological age and maintained this level of performance on the posttest. The mother-involvement group, at chronological age initially, gained four months in addition to the program interval, a gain larger than that of the other group. The group without mother involvement also obtained significantly higher scores on the Visual Decoding subtest; however, neither group had demonstrated a major initial deficit and both groups made substantial progress. Since both of these subtests were in the visual area where initial deficits were small, the inferior performance of the children who attended the Ameliorative program and received at-home instruction is not a matter of great concern, although this performance is somewhat puzzling since many of the mother-made activities for use at home emphasized visual skills.

On the other hand, the significantly lower scores of the mother-involvement group on two subtests requiring verbal expressive abilities are a matter of real importance. On both subtests, Auditory-Vocal Automatic and Vocal Encoding, both groups showed comparable and severe initial deficits. The progress (eleven months in excess of the program interval) of the group participating in the Ameliorative program without mother involvement resulted in a nondeficit test-two performance on both subtests while the progress of the other group was minimal and substantial deficits remained on both subtests. Although the mother-made activities and the instructions for their use at home were designed to enhance language development, mother involvement apparently inhibited the acceleration of verbal expressive abilities as assessed by these two ITPA subtests.

#### DISCUSSION

In no area of the test battery did mother involvement enhance performance, and the results favored the group who participated only in the Ameliorative program. On four ITPA subtests, two of them in the critical area of verbal expressive abilities, significantly higher scores were achieved by the children whose mothers were not involved in the program. In no way did the results of the test battery confirm the expectations of the study. Paradoxically, negative results obtained when two programs which had operated independently to achieve positive results were combined.

Any explanation of these results must necessarily be speculative. Since this study combined a mother-involvement program with a preschool program, it seems logical to examine these components to determine whether either was significantly altered when the two were combined. The Ameliorative program had been used previously with four-year-old children over a seven-month period, and the preschool operated in conjunction with the mother-involvement program was intended only to reproduce this earlier program. There is little basis to assume that subsequent Ameliorative programs were less effective than the original, and, in fact, project staff generally agreed that the later programs were superior in terms of curriculum organization and availability of materials. The mother-involvement program, however, necessarily required expansion from twelve weeks to seven months and specific accommodations since the children now received instruction at school as well as at home. In retrospect, accommodations which seemed appropriate at the time may have inhibited the performance of this group. In the earlier, short-term program the teachers delivered materials to mothers who had been absent and also made home visits at two-week intervals to evaluate the appropriateness of the activities by observing mother and child at work, to demonstrate teaching techniques, and to assess the extent to which mothers were working with their children. When the program was extended, these visits were abandoned. Teachers continued to deliver materials each week to mothers who had been absent and made the three home visits required of all teachers during the seven-month Ameliorative preschool. The weekly checklist used by each mother in the short-term study to record the time spent daily working with her child on the various teaching assignments (reading aloud, finger plays, games, counting, etc.) was also discontinued in the longer study. Since the preschool and the mother-involvement program were conducted by the same staff members, it was assumed that these teachers without the weekly checklist and the biweekly home visit would be able to evaluate the appropriateness of the activities used in at-home instruction and the effectiveness and regularity of the instruction by mothers through monitoring the child's performance at school, especially since the activities designed for at-home use closely correlated with the classroom program.

These changes, which seemed relatively minor at the time, coupled with the child's preschool attendance may have significantly altered the mother's perception of her role in this program. In the short-term study, the mother was aware that she was the only active agent for change in her child, and as she became convinced of the merit of the program, she increasingly felt this responsibility. The fact that project staff placed a similar value on her role was demonstrated to the mother by the weekly checklist and the biweekly home visits to evaluate her work. In the longer study, mothers appreciated the value of the activities for their children but may have over-emphasized the role of the preschool in achieving the goals of the program. Teachers, through their actions rather than direct statement, may have unwittingly reinforced this devaluation of mother-child interaction by making the purpose of home visits the

delivery of materials to absentee mothers. The emphasis of home visits had changed from concern over mother-child interaction to concern over the presence of materials, and it was not unreasonable for some mothers to feel that the materials themselves were the essential ingredient in effecting change. Through the weekly checklist the mother had reported what she taught at home, but during the three visits made in conjunction with the operation of the preschool, the teacher reported on the progress of the child at school.

Mothers in the short-term study saw the major intent of the program to be the benefits which fell to their children. In the longer study, since the children also received the benefits of a preschool experience, the mothers tended to use the mother-involvement program to meet personal needs. Instead of a mother's program for children, the program may have been seen as a mother's program for mothers. Evaluations of the longer program, both verbal and written from teachers and mothers, support this view. Mothers frequently commented on their enjoyment of the social aspects of the program and on the genuine pleasure they experienced in making educational materials for their children, but a disturbing number of mothers also indicated at the end of the year that the primary use of these materials at home was by the child alone or under the direction of older siblings. Apparently mothers felt that they had fulfilled their responsibility to the program when they sent their children to school, attended a weekly meeting, and made educational materials, and, indeed, this level of involvement represented a major commitment. To some extent, mothers may have substituted these experiences for direct mother-child interaction, a consequence counter to the intent of the study, and that substitution may have been detrimental to the development of verbal expressive abilities. The solitary involvement of a child with the materials or their use with a sibling not trained to encourage verbal responses is consistent with such a performance.

In spite of the statistical results, project teachers continue to be enthusiastic about mother involvement in conjunction with preschool and feel that their observations of the children in the classroom support this view. Children brought the mother-made activities to school and initiated comment on these materials. Children often pressured their mothers to attend meetings and were keenly disappointed when their mothers were absent. Teachers believed that a meaningful home-school relationship had developed over the seven months and there was evidence that some mothers generalized from this preschool experience to the public school and wider community levels. Mothers commented that they felt more confident about approaching the classroom teachers of their older children since they had found the preschool teachers receptive. Mothers who had never before been involved in community action groups found the courage to join such groups and, hopefully, the confidence and commitment to sustain their participation.

## Implementing the Ameliorative Program with Paraprofessional Staff

Merle B. Karnes, Audrey S. Hodgins,  
and James A. Teska

It was the intent of this study to determine whether a paraprofessional teaching staff indigenous to the poverty area could, through sustained inservice training and daily supervision, implement the highly specific instructional program developed in the Ameliorative preschool. Intervention effectiveness was evaluated by comparing the performance on a standardized test battery of children taught by paraprofessionals with that of children taught by professional staff implementing the same instructional program. Four class units participated in this study. The first two were taught by professional staff and are described as the Ameliorative intervention in the earlier study, "The Effects of Five Preschool Interventions: Evaluations over Two Years." The third class unit was staffed by three, young, Negro mothers who had no previous teaching experience and no formal education beyond high school. The fourth was taught by sixteen- and seventeen-year-old girls enrolled in a high school work-study program. In addition, a qualified preschool teacher served as the paraprofessional trainer in each of the latter two units.

Positive research findings, it was assumed, would suggest ways to ease the staffing problems found in preschools for disadvantaged children throughout the country. The former U.S. Commissioner of Education, Harold Howe (1969), has suggested that the levels of responsibility of paraprofessional staff must be extended if we are to improve the educational chances of children from the ghetto and the rural slum through the means of a rewarding early childhood experience. Commissioner Howe concluded, the states must be "encouraged to recruit and train teacher aides as well as members of the local community who have not previously been involved in education" and the local school systems must be helped to find "new ways of using existing resources of the community, benefiting not only the schools but also making a substantial contribution toward the creation of new careers for members of the community [p. 10]." This study, then, goes beyond the feasibility of employing paraprofessional staff in peripheral positions and addresses itself to the question of whether such staff can be trained to assume the major responsibilities for implementing a preschool instructional program.

### METHOD

#### Selection of Subjects

Procedures to recruit children for the class unit taught by the adult paraprofessional staff were the same as those employed

in the earlier preschool studies. Race and sex ratios and the three intelligence strata were again maintained (Table 1). Recruitment procedures for the class unit taught by the teenage paraprofessional staff only approximated those used in the earlier studies. Through a cooperative arrangement this class unit was located at a community nursery school in a target area housing project. A requirement of this arrangement was that 50% of the children be recruited from the housing project. Pre-enrollment had begun at this school the previous spring and commitments to these children were honored. The community nursery, to further long-range integration goals, had recruited several children from socioeconomic levels higher than those which characterized the larger research study. It was not possible through subsequent recruitment to balance intelligence strata and sex-race categories. The high stratum for this class unit consisted of only one child while nine children were in the middle stratum, an obvious violation of the one-third rule. The sex-ratio of approximately 50% males and 50% females also was not maintained. In addition, four of the sixteen children did not meet the age criterion of this study and were three rather than four years old before December one of the recruitment year.

### Intervention

The length of intervention, the daily schedule, the teacher-pupil ratios, and other aspects of classroom mechanics in the two class units taught by paraprofessionals were patterned after those of the Ameliorative preschool described earlier. (See pp. 52-55.) A major effort was made to insure that the teaching strategy employed by the paraprofessionals and the curricular units they implemented followed those of the earlier study which provided the basis for comparison. To fulfill this intent, a procedure was developed whereby a professional teacher acting as a supervisor provided inservice training for the three paraprofessional teachers under her direction. The supervisory teacher assumed full responsibility for the long-range educational goals of the program and for the specific instructional plans and was present in the classroom each day to assess the appropriateness of her plans for the children as well as the effectiveness of her paraprofessional staff in executing these plans. She did not, however, assume the role of classroom teacher herself except in ancillary ways, as, for example, in demonstration lessons or in the direction of the music program.

Before each preschool session began, the three paraprofessionals and their supervisory teacher met for a half-hour to review the specific lesson plans for the day designed to implement the Ameliorative curricula in math, language arts-reading readiness, and social studies-science. Vocabulary and concepts unfamiliar to the paraprofessionals were carefully presented by the supervisor before such material was taught the children. Role

Table 1

Initial Group Composition

Group	N*	Mean Binet CA	Mean Binet IQ	Intelligence Strata Means						Race		Sex	
				High	N	Middle	N	Low	N	Cau.	Negro	M	F
Professional	27	51.9	96.0	107.2	9	95.1	10	84.4	8	9	18	13	14
Paraprofessional (adult)	17	50.1	93.4	104.8	5	93.5	6	83.8	6	5	12	9	8
Paraprofessional (teenage)**	16	48.8	90.2	113.0	1	92.8	9	82.7	6	5	11	10	6

\*Three children withdrew from the two class units taught by professional staff, and no data for these children are included in this report. An additional child was enrolled in the class taught by adult paraprofessionals when the poor attendance of one child suggested that he might be dropped from that program. His subsequent attendance improved, and both children remained in the study.

\*\*The class unit staffed by teenage paraprofessionals was funded through the Office of Economic Opportunity for Leadership Development Program for Administrators of Preschool Centers for the Disadvantaged, Grants CG 8884 and CG 8889.

playing was often chosen as the instructional mode during these planning sessions, with the professional and the paraprofessional taking turns as pupil and teacher. The value of well-planned lessons at the child's level and the merits of praise and success in fostering maximum learning and preventing discipline problems were stressed.

After the dismissal of the preschool class, the staff met again for forty-five minutes to evaluate the completed preschool session and to plan for the following day. Each paraprofessional was provided an opportunity during the preschool session (during rest-time or during the music period which was generally under the direction of the supervisory teacher) to record anecdotal material related to the individual performances of the five children in her instructional group. These observations were used as guides in developing appropriate lesson plans for the following day. The supervisory teacher also presented a constructive critique of the teaching performances of the three paraprofessionals, offering specific alternatives where changes were desired. In addition, each supervisor rated her paraprofessional staff on an evaluation scale three times during the preschool year and discussed these ratings with the teachers individually.

The inservice training techniques adopted for the adult and teenage staff differed in relatively few ways. Because of their high-school schedules, the teenage paraprofessionals and their supervisor met only once each day, for forty-five minutes prior to the beginning of the preschool session. The major portion of this time was given to an explanation of the lesson plans for the day which included demonstrations, modeling techniques, and role playing. In addition, a typed version of each of the three lesson plans (math, language arts-reading readiness, and social studies-science) was posted at the appropriate work table. Because the post-session could not be scheduled, less time was available for the teenagers to evaluate the performances of individual children and more responsibility for child evaluation was assumed by the supervisory teacher than was the case in the classroom staffed by adult paraprofessionals. As a result, the teenagers were less able to contribute to lesson planning later in the year when the adult paraprofessionals were offering suggestions and improvisations.

#### Evaluation Procedure

To evaluate the effectiveness of paraprofessional staff in implementing a highly specific preschool instructional program the performance on a standardized battery of tests of children taught by paraprofessionals was compared to that of children taught by professional staff implementing the same instructional program. Intervention effectiveness was judged in terms of the

overall school readiness of disadvantaged children as represented in the following test battery:

1. Intellectual functioning as measured by the 1960 Stanford-Binet Individual Intelligence Scale, Form L-M, administered prior to and at the end of the preschool intervention.

2. Language development as measured by the Illinois Test of Psycholinguistic Abilities, experimental edition, 1961, administered prior to and at the end of the preschool intervention.

3. Visual perception as measured by the Frostig Developmental Test of Visual Perception, administered prior to and at the end of the preschool intervention.

4. The Metropolitan Readiness Tests administered at the end of the preschool intervention.

With the exception of the Metropolitan which was administered by a trained tester, qualified psychological examiners administered all tests at a school site and were not informed of the program assignment of the children.

## RESULTS

### Statistical Procedure

Statistical treatment of the total battery data (Binet, ITPA total, Frostig, and Metropolitan) employed a multivariate analysis of covariance using initial Binet, ITPA total, and Frostig scores as covariates. Since the Metropolitan was not given until the end of the preschool year, scores from this instrument were not available for use as covariates. A separate multivariate analysis of covariance of ITPA subtest data used the initial scores from the nine subtests as covariates. When multivariate F's were significant, Newman-Keuls tests at the .05 level were conducted in those instances when univariate F's were also significant.

### Total Battery

The F ratio for the multivariate test of equality of mean vectors for the five instruments in the test-two battery was not significant (Table 2). The performances of the Ameliorative classes taught by professional staff, adult paraprofessionals, and teenage paraprofessionals were nondifferential on all instruments, and all groups made nearly equal progress. Particularly on the assessment of general school readiness (Metropolitan) and visual perception (Frostig) were the similarities among performances striking.



**Table 2**  
**Total Battery Multivariate Analysis of Covariance**

F ratio for multivariate test of equality of mean vectors = 1.2894									
df = 10 and 100									
P less than .2467									
Variable	Group	N	Test 1 Mean	diff.	Test 2 Mean	Covariad Mean	Between Mean Square	Univariate F	P less than
Binet IQ	Professionals	27	96.0	14.3	110.3	1.11	15.6783	.4032	.6669
	Paraprofessionals (adult)	17	93.4	12.5	105.9	-.64			
	Paraprofessionals (teenage)	16	90.2	14.4	104.6	.56			
Frostig PQ	Professionals	27	80.7	18.4	99.1	66.34	11.3699	.0822	.9212
	Paraprofessionals (adult)	17	79.4	20.1	99.5	67.52			
	Paraprofessionals (teenage)	16	74.3	23.8	98.1	67.73			
Metropolitan Reading Readiness Raw Score	Professionals	27			40.7	-18.24	51.1482	.9985	.3752
	Paraprofessionals (adult)	17			41.2	-16.41			
	Paraprofessionals (teenage)	16			36.4	-20.01			
Metropolitan Number Readiness Raw Score	Professionals	27			10.7	-11.41	18.9691	1.8513	.1669
	Paraprofessionals (adult)	17			8.4	-13.21			
	Paraprofessionals (teenage)	16			8.0	-12.84			
ITPA Total Language Age Difference Score	Professionals	27	- 3.3	6.3	3.0	43.17	61.1276	2.2528	.1149
	Paraprofessionals (adult)	17	- 5.5	4.4	- 1.1	40.49			
	Paraprofessionals (teenage)	16	- 6.9	4.3	- 2.6	39.91			

NOTE: Initial Binet IQ, Frostig PQ, and ITPA total language age difference score were used as covariates. To relate language age to chronological age, a difference score was computed by subtracting a child's chronological age at the time of testing from his language age score.

### Intellectual Functioning

The differences mentioned previously in the composition of the class unit taught by teenagers make comparisons of distribution of gains and gains by strata difficult. These data do, however, suggest that children taught by paraprofessionals did not make large gains as consistently as did the children in the Ameliorative program staffed by professionals. Seventy-four percent of these children made gains of ten or more points, but only 53% of the children taught by adult paraprofessionals made gains of this magnitude. Further, gains by strata, in so far as strata among groups were comparable, were not as consistent in either paraprofessional program. In the Ameliorative preschool staffed by professionals, the gains of children in each of the three intelligence strata rather closely approximated the mean gain. In the class staffed by paraprofessional adults, the gain of the five children in the high stratum was only half that of the six children in the low stratum. In the program with teenage teachers, the mean gain of the six children in the low stratum (21.5 points) was responsible for a rather large proportion of the group mean gain (14.4 points).

### Language Development

The F ratio for the multivariate test of equality of mean vectors for the nine ITPA subtests was not significant (Table 3). There were no significant differences among the subtest performances of the Ameliorative classes taught by professionals, adult paraprofessionals, or teenage paraprofessionals. The disadvantaged children in the three groups in this study, as well as those in other similarly constituted groups throughout the research project, consistently demonstrated major initial deficits on three subtests: Auditory-Vocal Automatic, Auditory-Vocal Association, and Vocal Encoding. In addition to the specific aspects of language functioning measured, the ability to express oneself verbally is the common requisite for successful performance on these three subtests. These sharply limited abilities are a crucial challenge to preschool teachers of the disadvantaged.

Although subtest differences in this area did not reach significant levels, an important trend can be noted among the performances of the three groups. All groups entered the program with major deficits on the Auditory-Vocal Automatic subtest, but only the group taught by professional staff was functioning at its chronological age at the end of the preschool intervention. These children made gains eleven months in excess of the program interval. Children taught by adult paraprofessionals made more modest gains (four months) and continued to demonstrate a substantial deficit. Children taught by the teenage staff made negligible progress (one month), exhibiting a major deficit of fifteen months at the completion of the program. A rather parallel pattern can

Table 3

## Multivariate Analysis of Covariance for the Nine ITPA Subtests

F ratio for multivariate test of equality of mean vectors = 1.5296									
df = 18 and 80									
P less than .1015									
Variable	Group	N	Test 1 Mean	diff.	Test 2 Mean	Covaried Mean	Between Mean Square	Univariate F	P less than
Auditory- Vocal Automatic	Professionals	27	-10.8	10.8	.0	-10.56	209.8384	1.6500	.2028
	Paraprofessionals (adult)	17	-13.6	4.4	- 9.2	-15.04			
	Paraprofessionals (teenage)	16	-16.6	1.4	-15.2	-19.42			
Visual Decoding	Professionals	27	- .2	12.1	11.9	37.17	36.2340	.1351	.8740
	Paraprofessionals (adult)	17	- 3.7	12.8	9.1	34.37			
	Paraprofessionals (teenage)	16	- 3.8	9.4	5.6	34.05			
Motor Encoding	Professionals	27	- 6.6	6.8	.2	44.15	489.8713	2.8677	.0667
	Paraprofessionals (adult)	17	- 7.8	- .9	- 8.7	32.91			
	Paraprofessionals (teenage)	16	- 9.5	2.8	6.7	34.69			
Auditory- Vocal Association	Professionals	27	- 5.4	6.8	1.4	28.51	153.0205	2.7155	.0764
	Paraprofessionals (adult)	17	-12.6	8.7	- 3.9	27.19			
	Paraprofessionals (teenage)	16	-11.4	3.6	- 7.8	21.32			
Visual- Motor Sequencing	Professionals	27	- 6.4	7.9	1.5	73.47	119.5779	1.8395	.1700
	Paraprofessionals (adult)	17	- .6	- 1.5	- 2.1	69.93			
	Paraprofessionals (teenage)	16	- 5.2	7.4	2.2	75.88			
Vocal Encoding	Professionals	27	-13.6	11.3	- 2.3	3.81	47.8093	.3271	.7227
	Paraprofessionals (adult)	17	-14.6	6.9	- 7.7	.38			
	Paraprofessionals (teenage)	16	- 1.5	- 4.6	- 6.1	.62			
Auditory- Vocal Sequencing	Professionals	27	.9	5.3	6.2	3.98	140.8083	.8201	.4465
	Paraprofessionals (adult)	17	1.4	5.2	6.6	5.02			
	Paraprofessionals (teenage)	16	- 3.1	.2	- 2.9	- 1.58			
Visual- Motor Association	Professionals	27	9.9	.8	10.7	98.05	552.1898	2.8529	.0675
	Paraprofessionals (adult)	17	2.6	7.5	10.1	95.30			
	Paraprofessionals (teenage)	16	- 2.2	1.0	- 1.2	84.30			
Auditory Decoding	Professionals	27	1.9	.6	2.5	59.93	193.3825	1.3031	.2812
	Paraprofessionals (adult)	17	- 2.2	2.7	.5	59.84			
	Paraprofessionals (teenage)	16	- 4.7	11.1	6.4	67.23			

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

be seen in the pre- and post-intervention performances on the Auditory-Vocal Association subtest. Again all groups had large initial deficits and again only the children taught by professional staff demonstrated a nondeficit test-two performance. The gain made by the children taught by adult paraprofessionals, however, was actually the largest of the three gains, and their relatively minor deficit at test two reflects the magnitude of their initial deficit rather than inadequate progress. The children taught by teenagers again made the least progress (only four months) and performed relatively poorly on test two. On the Vocal Encoding subtest the class unit assigned to the teenage staff did not show the initial major deficit demonstrated by the other class units in this study or in the larger research project. An examination of individual subtest scores reveals that five of the relatively higher socioeconomic status children included in this class unit scored far above their age level on this subtest and helped to produce an inflated mean. Nine of the sixteen children in this class unit did, however, demonstrate deficits in Vocal Encoding which ranged from 12 to 21 months. On this important subtest only the children taught by professional staff achieved an essentially nondeficit test-two performance. The children taught by adult paraprofessionals made good progress (7 months in excess of the test interval) but maintained a relatively large deficit of 8 months. The children taught by teenagers, in spite of their atypical initial performance, regressed five months during the preschool program, and their test-two deficit approached major proportions. Quite clearly, then, on the three subtests related to the critical area of major deficit, verbal expressive abilities, the effectiveness of the paraprofessional staffs did not match that of the professional teachers. Supervisory teachers of both paraprofessional staffs were aware of this discrepancy early in the program, particularly in regard to the role of the Ameliorative teacher in providing a specific language model for the child to pattern.

On one other subtest, Motor Encoding, differences in test-two performances merit comment. Initially the three groups of children showed substantial and relatively comparable deficits (7 to 10 months). Only the children taught by professional staff achieved a nondeficit test-two performance. The children taught by teenagers showed little progress and those taught by the adult paraprofessionals actually demonstrated a small loss. Both groups remained substantially deficit. The supervisory teachers noted that the paraprofessionals at both age levels tended to show somewhat inhibited motoric involvement when demonstrating materials, when acting-out stories, and when directing musical activities and group exercises and games. The adult paraprofessionals were reluctant to initiate and carry out these kinds of activities, and the teenagers often exhibited embarrassment before each other and the supervisory teacher and self-consciousness with the children. In general, these staff members found it difficult to respond in situations which demanded motoric spontaneity.

## CONCLUSIONS

The staff variables explored in this study (professional, adult paraprofessional, and teenage paraprofessional) did not produce significantly differential performances on any component of the evaluation battery. Only minor qualifications need be made: (1) There is some evidence that children instructed in the Ameliorative curriculum by paraprofessionals did not achieve large IQ gains as consistently as did the children taught by professionals. (2) IQ gains by intelligence strata in classes taught by paraprofessional staff were not as uniform as those in classes taught by professional teachers. (3) Relatively poor performances on the Motor Encoding subtest of the Illinois Test of Psycholinguistic Abilities and on the three subtests related to verbal expressive abilities were demonstrated by children taught by paraprofessionals. Generally, however, the results of this study clearly endorse the feasibility of alleviating preschool staffing problems through employing paraprofessional teachers who receive sustained inservice training and daily supervision. The paraprofessionals, adult and teenage, who participated in this study did indeed demonstrate the ability to implement the highly specific instructional program developed in the Ameliorative preschool as effectively as professionally trained teachers.

## CONSIDERATIONS INVOLVED IN PARAPROFESSIONAL STAFFING

Although the analysis of the evaluation battery did not reveal significant differences between the group taught by the adult paraprofessionals and the group instructed by teenagers, the supervisory teachers in written evaluations of their respective staffs described conspicuous and pertinent variables. The performances of the adult paraprofessionals in all aspects of these evaluations were rated superior to those of the teenage teachers. Such a result is, of course, not surprising since the girls who participated in the high school work-study program were considered drop-out prone and the cooperative work program had, in fact, been instituted by the high school as a means for holding such students in school. Although the paraprofessionals at both age levels lacked teaching experience and knowledge concerning the goals of a preschool and the methods for achieving such goals, the teenagers failed to acquire a genuine sense of commitment to the program which the adult paraprofessionals (all mothers themselves) developed almost immediately. The teenagers exhibited rather chronic absenteeism which was never demonstrated by the adult paraprofessionals. Personnel turnover was high among the teenage staff: One girl left after six weeks to be married; one left during the first semester because of pregnancy; one left after a week because of inadequate reading skills which made it impossible for her to follow written lesson plans or to read

stories aloud to children. A total of six girls served as teachers in this classroom while the three adult paraprofessionals remained with the program to the end. These personnel problems placed unusual demands on the supervisory teacher for the teenage staff. She found it necessary, for example, to teach for six consecutive weeks because a suitable teenage replacement could not be found. Even under routine circumstances she was required to teach once or twice a week because of the high absentee rate of the teenagers. It is very possible that the creditable performance of the children in this class unit may be in large measure due to the dedication and energy of the supervisory teacher rather than to the effectiveness of her teenage teaching staff.

The teenagers tended to be somewhat defensive about suggestions which seemed in any way critical of their work. They often saw the supervisor as "another high school teacher," an authority figure with whom they did not identify and toward whom they felt somewhat rebellious. The adult paraprofessionals, on the other hand, viewed their supervisor as "part of the team" and were eager to extend their responsibilities within the classroom and to participate in planning and evaluation sessions. The supervisory teacher of the teenage staff felt that although these young teachers acquired many of the skills necessary to present curriculum materials to young children and to handle discipline problems in a constructive manner, their growth as teachers was limited because they did not adequately develop the ability to evaluate objectively the progress made by the children within their instructional groups. They tended to characterize individual performances in global terms ("just fine" or "terrible") and to demonstrate few insights into a child's specific learning problems and the appropriate help they might provide. Often the teenagers were unable to go beyond their own needs and interests and sense the needs of the children and of the overall program. They were, after all, adolescents with adolescent problems who found it difficult to focus thought and energy beyond their immediate concerns of personal appearance and social relationships. The young mothers found less difficulty in observing and evaluating child behavior and became rather ardent and articulate promoters of the preschool program.

The teenagers saw little relevance in this work experience for their occupational future while the paraprofessional adults sensed the relevancy of this experience to their roles at home and in the community and considered such training pertinent to future employment goals. While each supervisory teacher agreed that her staff had gained knowledge, techniques, and understanding during their service at the preschool, there seemed little question that in terms of transfer to the field the inservice training of adult paraprofessionals (in this instance young mothers) indigenous to the poverty area as teachers of disadvantaged children was a more feasible tactic than was a similar program for teenage girls. It must be remembered that these very encouraging results

were obtained with inexperienced people in a training program which ran for only seven months. The supervisor of the adult paraprofessionals believed that in subsequent years her staff would become even more effective teachers. In fact, she considered one member of her paraprofessional staff competent to teach independently and, perhaps of even greater importance, qualified to serve as a supervisor-trainer of other paraprofessionals.

It might have been assumed that implementing a highly structured instructional program would make the training of paraprofessional staff even more arduous. This did not prove to be the case. The supervisor of the adult paraprofessionals felt that the choice of the Ameliorative curriculum may have been critical to the success of the program. Structured programming proved to be a rather ideal vehicle for training paraprofessionals: (1) The paraprofessional teacher approached her teaching with confidence since she knew precisely what she was to do. (2) She was able to evaluate immediately her effectiveness as a teacher by observing the child's performance on defined tasks. (3) She could see the specific results of her efforts in the day-to-day development of the children. Although these observations were required to implement the structured curriculum, they also served to reward teaching efforts by emphasizing child growth.

The Effects of the Ameliorative Program  
with a Class of Low IQ Children

Merle B. Karnes, Audrey S. Hodgins,  
and James A. Teska

The class unit definition of this research project (one third of the children with initial IQ's of 100 and above; one third, 90 through 99; and one third, 70 through 89) resulted in a mean IQ for each class unit higher than the mean of the population screened. Consequently, high strata were difficult to fill, and recruitment each year resulted in low strata subjects who could not be placed. In the third year of the project, the fifteen four-year-old disadvantaged children for whom there were no vacancies in low strata or who fell below the cut-off of 70 were enrolled in a single class whose definition was an IQ below 75. It was assumed that these scores validly represented the level of intellectual functioning of the children, since qualified psychological examiners had administered the tests. It was not assumed, however, that a more complete psychological evaluation would have resulted in a diagnosis of mental retardation for many of these children. The subjects were not labeled retardates, although the teaching staff was aware of the atypical composition of this research class (Table 1).

Table 1

Initial Group Composition

N	Mean Binet CA in Months	Binet IQ Range	Mean Binet IQ	Race		Sex	
				Cau.	Negro	M	F
15	49.7	37 - 74	66.4	4	11	10	5

Classroom mechanics, teaching strategy, and curricula were essentially the same as those provided other Ameliorative classes (pp. 52-55). Teachers anticipated, of course, that these children might not cover certain units of work since similar curricular accommodations had previously been made between high and low strata children in other classes. The basic intent of the research was to evaluate the effectiveness of the Ameliorative program with this atypical group rather than to devise a new intervention program.

RESULTS AND DISCUSSION

Since no control group was available for comparison with this atypical class and since the other research class units, obviously not drawn from the same population, could not be used for direct statistical comparison, the evaluation of this group relies only on a consideration of gains.



### Intellectual Functioning

The Stanford-Binet IQ gain of 21 points made by the low IQ children was statistically significant at the .001 level (Table 2). This gain exceeds the gain of 13.8 points made by the twenty-four children who participated in the two earlier Ameliorative classes (p. 64). A somewhat more appropriate comparison can be made with the seven children in the low strata (70 through 89) in these two class units who had an initial IQ mean of 84.6 and made a gain of 16.0 IQ points.

Table 2

Mean Stanford-Binet IQ

Test 1	Test 2	Difference	t	Level of Significance
66.4	87.5	21.1	9.34	.001

The consistency with which the children in the earlier Ameliorative classes made gains was also demonstrated by the low IQ children (Table 3). No child made a gain of less than five IQ points and 80% of the children made gains of 15 or more points. Although IQ strata as defined in the earlier study did not exist within this group, the gains of the relatively high IQ children (70-74) were paralleled by the gains of the lowest children in the class (Table 4). The uniformly substantial gains in intellectual functioning of the low IQ children reflect the effectiveness of the Ameliorative program with children who demonstrated a sharply limited potential for school success.

Table 3

Distribution of IQ Gains

Gain in IQ Points	Percent	N
35 - 39	7	1
30 - 34	7	1
25 - 29	20	3
20 - 24	27	4
15 - 19	20	3
10 - 14	7	1
5 - 9	13	2
0 - 4	0	0

Table 4

## Binet IQ Gain by Initial IQ Level

Initial IQ Level	N	Mean IQ Gain
70 - 74	7	20.6
60 - 69	6	21.7
59 and below	2	21.0

Language Development

Assessment of the language development which occurred during this program is extremely difficult since many low IQ children were initially unable to perform on various ITPA subtests and were arbitrarily assigned the lowest language age score provided in the normative tables, following the precedent of the earlier studies. This convention had little influence on the subtest means reported in the earlier studies because few children were given such scores; however, in this study the influence of this convention was critical, and initial scores do not reflect the magnitude of deficit (Table 5). Since the initial level of deficit could not be assessed with accuracy, statistical tests of gains were inappropriate. To some extent, the positive impact of the program can be seen in the increased numbers of children scoring within the subtest norms at test two (Table 6). At test one, essentially none of the fifteen children were able to perform on four subtests; on two additional subtests, nine children scored below the norms. At test two, with the exception of the Auditory-Vocal Automatic subtest, virtually all of the children fell within the normative range of this instrument.

After the program intervention, when the low IQ children were generally able to score in the range of the ITPA norms, substantial deficits remained, particularly on subtests requiring expressive abilities. Severe deficits (over 12 months) were found on five ITPA subtests and sizeable deficits were shown on the other four. The extremely limited verbal development of these children, even after the intervention program, suggests that their academic potential will continue to be restricted.

Table 5

ITPA Language Age Difference Score  
Means in Months

ITPA	Test 1	Difference	Test 2
Auditory-Vocal Automatic	-20.6	-4.4	-25.0
Visual Decoding	-14.9	8.2	- 6.7
Motor Encoding	-19.1	-1.5	-20.6
Auditory-Vocal Association	-20.0	3.7	-16.3
Visual-Motor Sequencing	-14.6	.6	-14.0
Vocal Encoding	-22.1	2.8	-19.3
Auditory-Vocal Sequencing	- 6.9	-4.0	-10.9
Visual-Motor Association	- 9.7	1.8	- 7.9
Auditory Decoding	-14.1	5.0	- 9.1
Total ITPA	-17.2	2.9	-14.3

NOTE: To relate language age scores to chronological age, a difference score was computed by subtracting a child's chronological age at the time of testing from his language age score.

Table 6

Number of Children Scoring below  
ITPA Norms

ITPA	Test 1	Test 2
Auditory-Vocal Automatic	13	7
Visual Decoding	9	0
Motor Encoding	13	1
Auditory-Vocal Association	12	1
Visual-Motor Sequencing	9	4
Vocal Encoding	12	1
Auditory-Vocal Sequencing	5	1
Visual-Motor Association	3	2
Auditory Decoding	6	2
Total ITPA	7	1

#### SUMMARY

This discouraging school prognosis at test two (a mean Binet IQ in the slow-learner range and substantial deficits on all ITPA subtests) does not invalidate the very real progress made by the low IQ children in the Ameliorative program. During the nine-month program interval, the mean Binet mental age of these children increased 19 months and their ITPA total language age, 12 months -- remarkable progress for a group of children whose initial mean IQ was 66. Clearly, a one-year intervention at this age for this population is not adequate, and earlier and sustained intervention may well be required to effect the level of change necessary for successful school performance for a substantial number of these children.

## INFANT INTERVENTION STUDIES

### The Effects of Early Education with Disadvantaged Infants

Samuel A. Kirk<sup>1</sup>

During the past decade many researchers have been interested in the cognitive, language, and perceptual development of young disadvantaged children. The literature is now replete with articles which demonstrate that intervention at the preschool level produces acceleration in rate of growth in psychological functions as measured by standard intelligence tests.

Several major theoretical and practical questions evolve from the results of preschool intervention. One question deals with the stability of the gains during the preschool level. Some data indicate that IQ's and other indices of development tend to rise during the period of intervention, but also tend to drop after the children enter school. Another question is whether the early acceleration, even if it is maintained, results in accelerated school achievement when compared to that of children who did not receive preschool intervention programs. A third question relates to the kind of preschool intervention that produces the most effective gains. A fourth question, which is the topic of this report, relates to the relative effects of providing intervention at various ages. The basic question is whether intellectual functioning can be stimulated more effectively at a very young age than at the age of four or five.

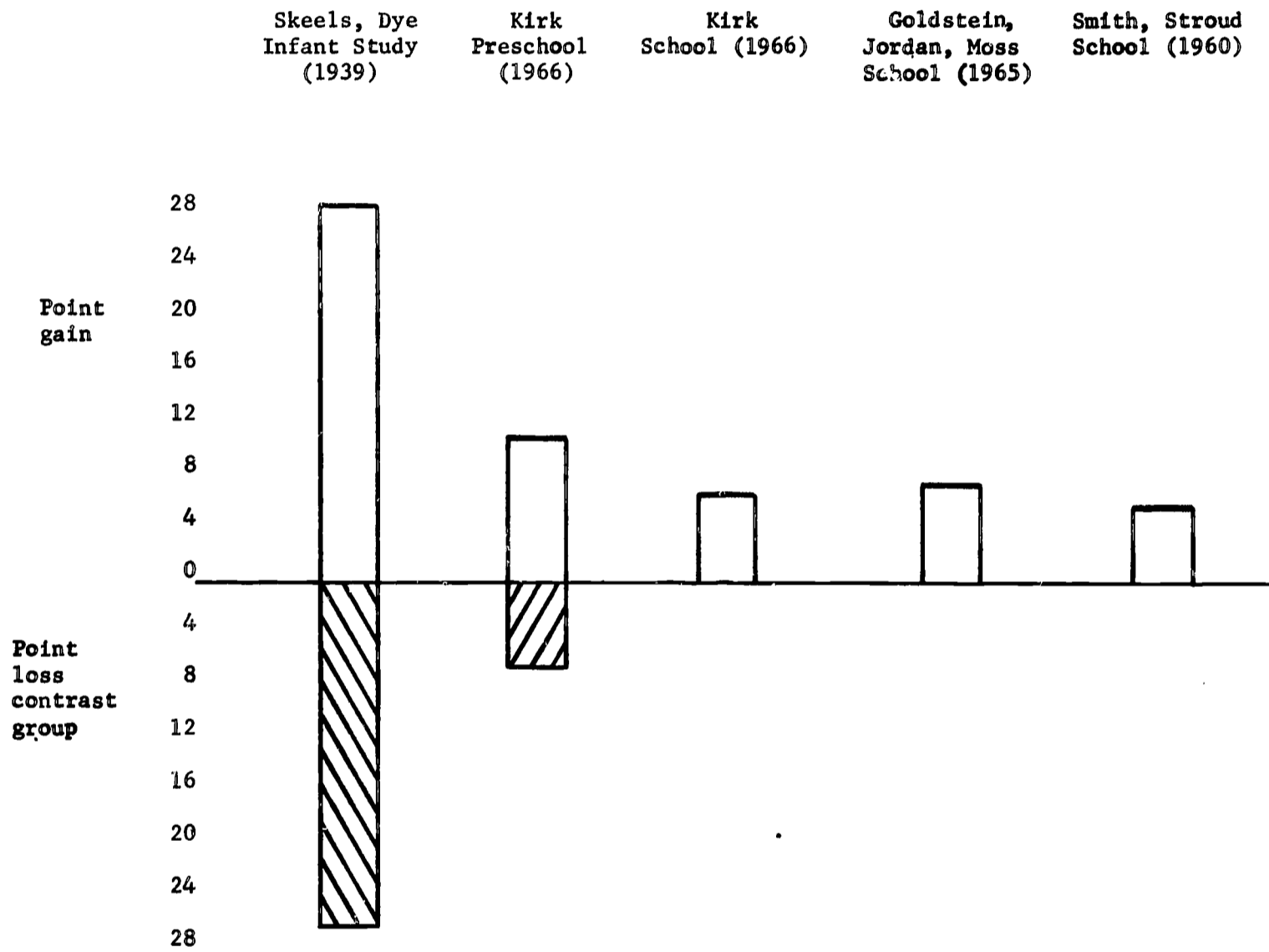
There is some precedence for believing that stimulation at the age of one or two is more effective for disadvantaged children than intervention at the age of five. The evidence for this point of view is meagre, and sometimes is inferred from diverse data. For example, Kirk (1966) compared studies which began at different ages. Figure 1 shows the results of Skeels study (1939) where intervention began at ages 1 to 2 with Kirk's results where intervention was initiated at an average age of 4½ to 6 and the studies of others where intervention began at age 6. It will be noted that within both the Skeels and the Kirk groups the training groups made significant increases, while the contrast groups declined. The Skeels group, however, in which training was initiated between ages 1 and 2, made more progress than did the training group of Kirk. The other groups initiated intervention at age 6, but did not have control children who did not attend school. The ages 6 groups did not make as much acceleration in rate of mental

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<sup>1</sup>Appreciation is extended to Dr. Will Beth Stephens who was in charge of this project during its initial stages and who did the original testing and evaluation and wrote the design report.

Figure 1

Changes in IQ Scores When Training is Initiated  
at Different Age Levels



development as did the Kirk group where intervention began at the average age of 4½. If these comparisons have merit, it would appear that the earlier the intervention, the greater the increase in rate of mental development. It should be pointed out, however, that the comparisons of different groups are not adequate proof. One difficulty in this comparison, for example, is that the Skeels group and the three groups that began intervention at age 6 did not include children with organic pathologies. Within the Kirk group one-half were children with organic pathologies.

Bloom (1964), in his studies on the stability of intelligence test results, estimated that 50% of intellectual development takes place between conception and age 4, about 30% between ages 4 and 8, and about 20% after age 8.

It would appear from these sporadic results and opinions that intervention for disadvantaged children should be initiated as soon as possible after birth and before the age of 4.

To test the notion that intervention in early childhood was most beneficial, the present experiment was designed with disadvantaged children. The general problem was to compare children who received intervention at ages 1 to 2 with children who did not receive intervention, and also to compare both groups with their siblings who received no intervention before age 4.

## METHOD

### The Plan of the Experiment

From a group of disadvantaged children admitted into a preschool at the age of 4, 30 siblings between the ages of eight months and two years were selected for the experiment. These thirty infants were divided into two groups, an experimental and a control group. The fifteen experimental children received daily one-hour training in their homes for one year and were then admitted into a preschool of three-year-olds the second year. The experimental children were compared with the controls after the first year and again after the second year. In addition, the test scores of both the experimental and control groups were compared with the test scores of their siblings when they had been admitted into the preschool at the age of four.

Specifically, the children (four-year-olds and infant siblings) came from families who were on the rolls of Aid to Dependent Children or Family care, who resided in Federal housing projects, or who were identified by public school authorities as being disadvantaged. All infants were examined with The Cattell Infant Intelligence Scale. Those who had IQ's between 80 and 120 and who did not evidence organic pathology on medical examinations were selected.

This group of thirty infants was divided at random and assigned to the following groups:

1. Fifteen male and female subjects, eight months to two years, were assigned to an experimental group who would receive one hour tutoring in the home each day (experimental group).
2. Fifteen male and female subjects, eight months to two years, who would not receive tutoring in the home (control group).

#### Characteristics of the Subjects

Table 1 presents the Cattell Infant Intelligence Scale IQ for the Experimental and Control groups and the Stanford-Binet Revised IQ for the four-year-old siblings. Attrition the first year reduced each group by one case, and the data, therefore reflect fourteen control and fourteen experimental cases. It will be noted from Table 1 that the experimental and control groups were of the same age and IQ on initial testing. There were, however, two white children in the experimental group and six white children in the control group.

Table 1

#### Characteristics of the Groups Prior to Training

	Experimental Group N=14	Control Group N=14
Males	7	8
Females	7	6
White	2	6
Negro	12	8
Mean C.A. in months	16.9	17.0
Mean M.A. (Cattell)	16.8	16.9
Mean IQ (Cattell)	98.9	99.2
Mean IQ (Binet) of older siblings	92.1	94.1

#### Tests Administered

Tests and evaluations were administered to the thirty infants before the experiment and at the end, as follows:

- a) During pretesting the following tests were administered: (1) The Cattell (1960) Infant Intelligence Scale, (2) Caldwell's (1966) Assessment of Home Stimulation, (3) The Fels Parent Behavior Rating Scales (Baldwin, Kalhorn, and Breese, 1949), (4) Fokes (1965a) Outline of Language Development,



(5) An Instrument for Assessing Infant Psychological Development (Uzgiris and Hunt, 1966), (6) a pediatric examination, and (7) Fokes (1965b) Outline of Motor Development. These tests and evaluations were administered initially for the purpose of studying the children and aiding in organizing a tutorial program in the home. The tests and evaluations have been described by Painter (1968).

b) Posttesting evaluations were made after one year of tutoring and after one year of preschool. Posttests that are here reported are (1) the Stanford-Binet, Revised Form L-M, and (2) The Illinois Test of Psycholinguistic Abilities (experimental edition). These tests were given only as posttests since the children were too young for these tests during the initial stages.

#### Description of Thirty Infants

Table 1 gives the race, sex, mean chronological ages, and Cattell IQ's of the experimental and control groups. The intelligence quotients of the 30 subjects ranged from 86 to 118. In motor development the two groups were commensurate with age level. Common, but not severe, deficits were noted in the areas of language development and symbolic representation.

Medical examinations revealed 3 subjects possessed a cardiac condition termed "heart murmur." Because 8 of the 30 subjects had hemoglobin levels below nine, they were classed as having severe anemia or hypochromemia. The incidence of respiratory ailments and other childhood illnesses was high during the initial stages of the project and substantially hindered the experimental group's participation in tutorial sessions.

McGuire and White (1955) estimate social class under the categories of upper-class, upper-middle, lower-middle, upper-lower, and lower-lower. Range of scores for the 30 subjects included in the present study rated the subjects as "lower middle" (48) to "lower low" (84). Mean score was 69.5 (lower-low) for the 14 experimental subjects, and 73.6 (lower-low) for the 14 control subjects.

A description of the homes and parents is furnished by a review of the ratings on Caldwell's Assessment of Home Stimulation. Living conditions frequently were crowded. Eighteen of the subjects came from families of six or more. All but 3 of the 28 subjects resided in homes which provided 150 square feet or less of living space per person; Thirteen children had homes with less than 100 square feet per person. Seven of the homes were rated as clean and well kept; seven maintained a surface cleanliness, five were ill-kept, four dirty, and six filthy and unsanitary.

Matriarchal family patterns were characteristic. Only 7 of the 29 sets of parents were married and living together at the time of the interview. In all other cases the parent responsible for the child was the mother. In one instance the spouse was deceased; nine mothers were separated from their husbands, and one was divorced; eleven were unmarried. Generally the mother had opportunity to be with the child the major portion of the time. Twelve of the mothers were unemployed; six engaged in seasonal part-time work; seven, in regular part-time work; and three worked forty hours a week.

Characteristic of the homes was the lack of children's equipment. Both books and toys which were appropriate for the child's age level were used in only six of the twenty-nine homes. Nine homes had toys but no books. In two homes toys were available but seldom used; while twelve homes had very few or poorly chosen toys, and one home had none.

Means and inter-rater reliabilities for the experimental and control groups on the seventeen variables assessed by Fels Parent Behavior Rating Scales are set forth in Table 2. Provision was made for scores which ranged from 0 to 90, with the higher ratings being the more positive ones.

Review of individual ratings revealed that extreme scores tended to be negative (low) rather than positive (high). Perusal of ratings for all thirty subjects on the 17 variables disclosed only seven ratings of 70 or above versus 44 ratings of 20 or below. Noteworthy attitudes common to these homes appeared when consideration was given the six variables which received lowest mean ratings and the two which received highest mean ratings. These homes in general were characterized by lack of restrictiveness. Standards and regulations tended to be liberal and freedom was allowed in matters commonly subject to regimentation. When the parent did recognize misconduct the penalties often were too mild to have motivating power. The age of the subjects probably influenced the parents' tendency to disregard misconduct, to omit explanation regarding requirements and penalties, and to avoid deliberate training of the child in mental and motor skills. However, these same attitudes were maintained in the parents' interaction with older siblings. Most attempts were restrained on occasion, and in some instances there was a complete lack of deliberate training. Nonetheless, attempts at self-help usually were not discouraged and conditions of general babying or over-protectiveness seldom existed. The tendency was to withhold aid as the child sought solutions for minor problems. Although understanding of the child's needs and capacities (functional parental intelligence) was limited, these parents were affectionate, and in most instances a psychological closeness characterized the mother-child relationship. Extreme hostility or open rejection by the mother for the child was not found. Although child neglect was

Table 2

Fels Parent Behavior Rating Scales: Mean Ratings  
for Experimental and Control Groups  
and Inter-Rater Reliability

Variable	Experimental N=15	Control N=15	Inter-Rater Reliability
1. Adjustment of Home	41	40	.86
2. Restrictiveness of Regulations	41	37	.73
3. Severity of Penalties	40	33	.78
4. Clarity of Policy	45	42	.69
5. Coerciveness of Suggestion	47	35	.80
6. Accelerational Attempt	31	32	.71
7. General Babying	38	38	.80
8. General Protectiveness	42	39	.88
9. Direction of Criticism	38	43	.82
10. Affectionateness	52	50	.71
11. Child-Centeredness of Home	38	41	.80
12. Duration of Contact	43	49	.89
13. Intensity of Contact	45	46	.90
14. Justification of Disciplinary Policy	34	39	.77
15. Readiness of Explanation	41	46	.76
16. Understanding	34	37	.93
17. Rapport between Parent and Child	50	52	.85

noted in two cases there was no suggestion of child abuse in any of the homes.

#### Development of Tutorial Program

Because each of the fifteen experimental subjects was found to be proceeding normally in motor development, the initial phase of the program, while essentially sensory-motor, emphasized eight areas of cognitive development: (1) language, (2) symbolic representation, (3) space, (4) number, (5) classification, (6) time, (7) reasoning, and (8) imitation. After an initial exploratory period, tasks designed to promote learning in these areas were organized on the basis of a developmental sequence. Work on symbolic representation is here cited to illustrate techniques utilized in the tutoring program.

Initially pictures had no interest or meaning for the majority of these subjects. Attention centered on the manipulative value of the paper and scant heed was given the picture. In an effort to promote interest and recognition, life-sized, realistically colored pictures were selected which represented objects found in the child's daily environment. When these were presented, the children continued to evince no sign of recognition. Therefore, a decision was made to present realistic pictures of oranges while the tutor and subject were engaged in peeling and eating an orange. The task required the child to put half of the orange in an envelope to which a picture of half an orange was attached. Later an apple and an envelope with an attached picture of an apple replaced the orange. Still later envelopes for both the apple and the orange were placed in front of the child and he was requested to "put the orange in the bag," or "put the apple in the bag." Correct placement was made using the pictured orange or apple as the cue. As bananas, peaches, and other fruits were introduced, it became necessary for the child to discriminate between four pictured objects to achieve correct placement. Following this, the task was expanded to include such everyday objects (and their envelope picture) as bottle, shoe, sock, and comb. After success was achieved in this activity, the child identified these same items in picture books. In this manner the transition from concrete object to pictorial representation was made, and nursery books which contained these pictured items began to have interest and meaning for these culturally disadvantaged subjects. Thus the tutorial approach for the eight cognitive areas consisted of (1) locating the child developmentally in a particular area, (2) devising methods which would aid transition from one developmental level to the next, and (3) dividing the training task into a sequence of activities. The tutorial program is described in detail in Painter (1968).

## The Second-Year Program

At the conclusion of one year's tutoring, the fourteen experimental children were placed in a half-day preschool for a seven-month period. The program provided was similar to the first year of the program described by Karnes in this report (Earlier Intervention: Effects of the Ameliorative Program Initiated with Three-Year-Old Children and Maintained for Two Years).

### RESULTS AND DISCUSSION

The results of this experiment compare the experimental group of fourteen children who received one year of tutoring at home the first year and in the second year attended the Ameliorative preschool where a structured program was provided for two hours a day with a control group of similar disadvantaged children who did not receive early education for the two-year period. The two groups are also compared to their older siblings who were examined at the age of four before receiving preschool education. The two major methods of measurement of progress at this time are the Stanford-Binet (Form L-M) and the Illinois Test of Psycholinguistic Abilities, the latter given only at the end of the experiment.

#### Changes in Rate of Mental Development

Figure 2 presents a comparison of the changes in intelligence quotients of the experimental and control groups over the two-year period.

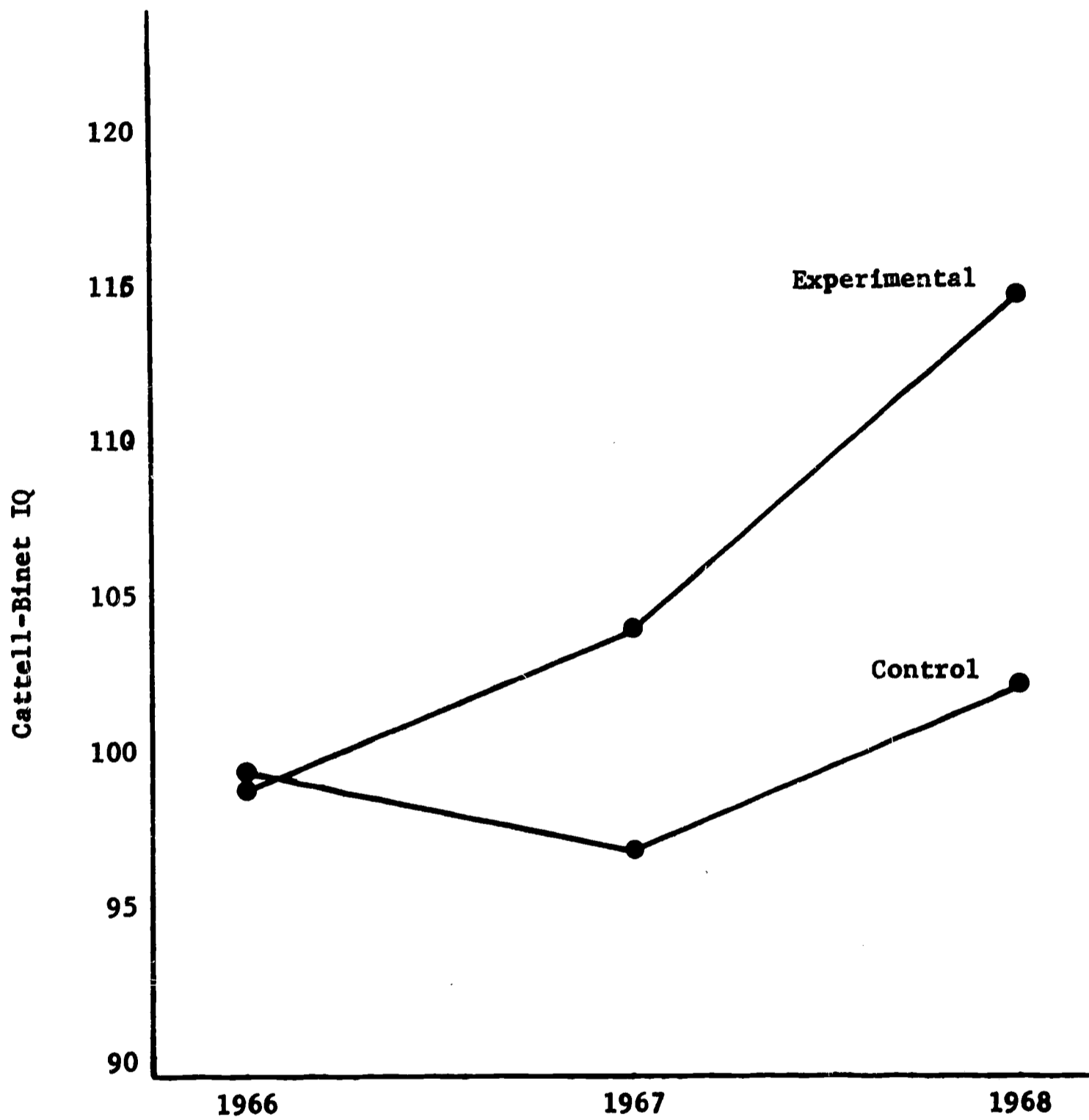
The experimental and control children had IQ's of 98.9 and 99.2 respectively on the Cattell Scale of Intelligence at the beginning of the experiment, when their average age was 16.9 and 17.0 months respectively (Table 1). The only difference between the groups was the fact that the experimental group of 14 children had 12 Negro children, while the control group had 8 Negro children.

It will be noted from Figure 2 that the experimental group gained approximately 5 points in IQ during the year in which they had tutoring at home for one hour a day, and gained an additional 11 points in IQ the second year when they were trained in the structured Ameliorative program. The Control group, on the other hand, decreased in IQ from 99.2 to 96.9, a drop of 2 IQ points during the first year. The second year, while they were still at home, they advanced to an IQ of 102, or an increase of approximately 5 IQ points.

These comparisons should be made with caution. The first IQ was obtained on the Cattell test, whereas the second and third test scores were obtained on the Stanford-Binet. Consequently, it is questionable whether direct comparisons can be made. The

Figure 2

A. Comparison of IQ Changes for the Experimental and Control Groups over a Two-Year Period



Cattell test was administered to determine whether the groups selected were equal in age and measured intelligence. The direct comparison that can be made, therefore, is a comparison of the groups at different time intervals, rather than a comparison over time on tests that are questionably comparable.

Although the control group nominally stayed at home, a follow-up showed that three of the 14 control children attended a day school and Head Start during the second year. These children increased their IQ's during the year by 9, 11, and 17 points, thus inflating the increase made by the control group as a whole. Subtracting these three scores from the group, the mean increase of the remaining children was only 3 points.

The statistical analysis shown in Table 3 suggests several generalizations.

1. The experimental and control subjects had no significant differences in age and IQ at the beginning of the experiment.

2. When tested on the Stanford-Binet after one year of tutoring, the Experimental group had a mean IQ of 104, while the control subjects had a mean IQ of 97, a difference of 7 IQ points between the two groups. This was statistically significant at the .05 level.

3. After one year of group instruction in a preschool for three-year-olds, the experimental children obtained a mean IQ of 115, while the control children obtained a mean IQ of 102, a difference of 13 IQ points. This was statistically significant at the .005 level, in spite of the fact that three of the control children attended a preschool during the year and showed an average increase in IQ of 12 points, thus inflating the gains made by the control group as a whole. Without these three, the increase of the control group was only 3 IQ points.

As was noted, the difference between the groups after one year of tutoring in the home was 7 points. Although this is statistically significant, there is always the question of whether this difference has psychological significance. Ordinarily, spurts in IQ come during the initial stages of instruction with a plateau or only slight increase the second year. The results here are the reverse. The second year's instruction in a group showed a wider difference than that of the first year.

Preschool results for the three-year-old experimental group are similar to those obtained by Karnes, Hodgins, Stoneburner, Studley, and Teska (1968) during the first year of a two-year study with three-year-olds. Her preschool group gained 17 points, whereas her control group lost 3 points.

Table 3

A Comparison of Pre- and Posttests for  
Experimental and Control Groups

	Pretest Cattell		Test after 1 year Binet		Test after 2 years Binet	
	Exp.	Cont.	Exp.	Cont.	Exp.	Cont.
Mean	98.9	99.2	104.0	96.9*	114.9	102.0
Variance	45.78	69.02	123.71	70.78	96.26	143.71
Diff. between means	0.3		7.1		12.9	
t value	.01		1.84		3.00	
Level of significance	NS		.05**		.005**	

\*Four of the control children received the Cattell, and these scores are included in this mean.

\*\*One-tailed test.



### Comparison with Siblings

One of the comparisons in which we have been interested is the possible difference between a group of children who had early training compared to their older siblings who did not receive intervention before the age of four. Since the infants in the experimental and control groups were younger siblings of children who were tested at age 4, and then admitted to the preschool, such a comparison is possible.

Table 4 presents these data for (a) the infant experimental group at average age 3-7, (b) the siblings of the experimental group at average age 4-3, (c) the infant control group at average age 3-6, and (d) the siblings of the control group at average age 4-2. There was a difference of 22.8 IQ points between the experimental children, who had intervention for 2 years between the ages of one and three and one-half, and their siblings, who were examined at age 4 and who did not have intervention. The control infants at age 3-6 who did not receive preschool intervention were 7.9 IQ points higher than their four-year-old siblings who did not receive preschool intervention. Although this difference is significant at the .05 level, it would not be significant if we deleted the 3 children who attended other preschools and whose average increase was 12 IQ points. The IQ difference would then reduce to 5 points.

### Rate of Psycholinguistic Development

The Illinois Test of Psycholinguistic Abilities does not test children adequately below three years of age. Consequently, the test was not administered to the two groups at the beginning of the experiment but was administered at the end of the experiment to both groups when the children were 3-7 (experimental) and 3-6 (control) years of age. The test was administered to the older siblings at 4-3 and 4-2 years of age, respectively.

Figure 3 graphically presents the Standard Scores on the Total score of the ITPA for the four groups at the end of the experiment. It will be noted that the only group that showed a positive standard score (+.45) was the experimental group. The control group with a standard score of -.73 was 1.18 standard scores below the experimental group. Likewise, the siblings at an older age had standard scores of -.87 and -.61. Although these data present some evidence on the effects of early training, they do not furnish us information on whether the gains were the result of the one-hour-a-day of tutoring for the first year, or the group experience in the preschool the second year, or the combination of the two.

### Visual Perceptual Development

In addition to the Stanford-Binet and the ITPA, comparisons were made between the experimental and control groups on the

Table 4

A Comparison of Infant Experimental and Control Groups  
with Older Siblings Before Training

	Infant Exp. Group	Siblings of Exp. Group	Infant Control Group	Siblings of Control Group
Stanford Binet IQ	114.9	92.1	102.0*	94.1
Variance	96.26	79.50	143.71	195.12
Difference	22.8		7.9	
t (correlated pairs of means)	5.73		2.42	
Significance	.0005**		.05***	

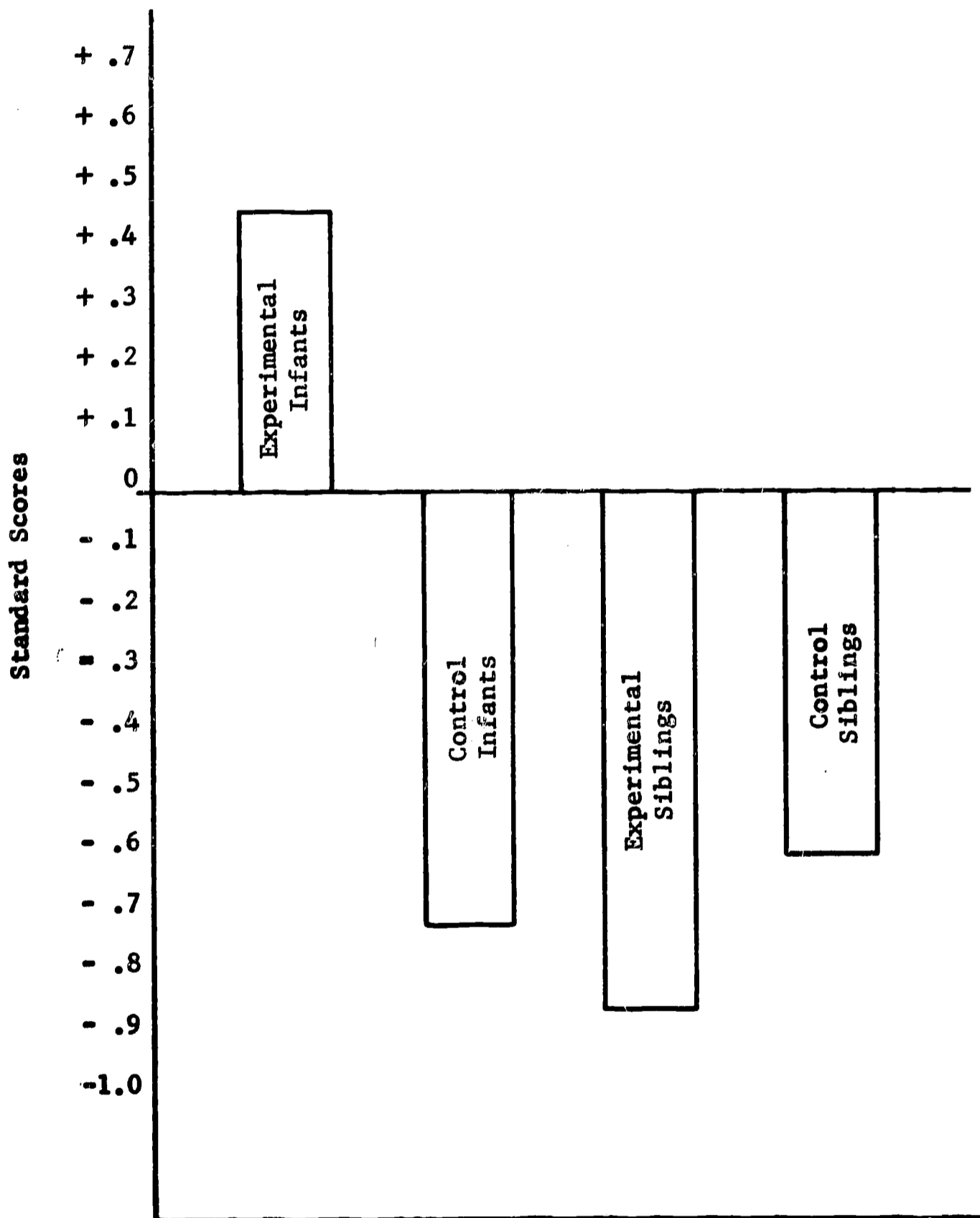
\*Three of the control children received preschool education. Their increases in IQ inflated this average.

\*\*One-tailed test

\*\*\*Two-tailed test

Figure 3

A Comparison of Experimental, Control, and Sibling Groups  
on Total ITPA Standard Scores



Frostig Test at the end of the experiment. The experimental group obtained a perceptual quotient of 98.5, while the control group obtained 90.9. These results are similar to the favorable results obtained by the experimental group on the Stanford-Binet and ITPA.

### Discussion

The results of this study indicate quite clearly that for disadvantaged children preschool intervention at age three produces significant acceleration in mental development as measured by the Stanford-Binet, the ITPA, and other tests. When compared with the development of disadvantaged children who did not receive such intervention, the results support the hypothesis that early intervention is beneficial.

The major hypothesis of this study, however, was that tutoring in the home at the ages of one to two years for one hour a day is even more beneficial than initiating intervention at the ages of four and five. Although the 7-point difference in IQ reported here between the experimental and control groups was statistically significant, the conclusion that one hour a day of tutoring is warranted seems dubious in light of the fact that the experimental group and the Karnes preschool group (who did not have home training at age two) made greater increases in IQ when entering the Ameliorative preschool at the age of three. The hypothesis, then, that home training for one hour a day before the age of three is more beneficial than training at a later age would appear to be negated. As indicated, better results were obtained by placing children at age three for one-half day in a specialized preschool with a ratio of one teacher to five children.

It should be pointed out, however, that this experiment does not exclude the possibility of obtaining marked improvement in children when intervention is initiated in the home at the age of one and two, if the intervention consists of a program in the home that includes more than one hour of tutoring plus a program of parent training and parent participation. The present writer is convinced that a little intervention is not significantly beneficial, and that if results are to be achieved, the program must be a "total push" program throughout the waking hours of a child over a four- or five-year period.

## Training Mothers to Instruct Their Infants at Home

Merle B. Karnes and Earladeen Badger

Educational programs implemented by mothers for young, disadvantaged children characterized all stages of the larger research project. The pilot study (The Effects of Short-Term Instruction at Home by Mothers) begun in the first year of the project was expanded in the second year (The Impact of At-Home Instruction by Mothers on Performance in the Ameliorative Preschool) and diversified during the third year to include the training of young mothers as classroom teachers (Implementing the Ameliorative Program with Paraprofessional Staff) and, in this study, the training of mothers to implement an instructional program at home for their one- and two-year-old infants. Tutorial programs for infants such as the one described by Kirk in the preceding report (See also Painter, 1968.) require staff and budgetary commitments at impractical levels, and a more feasible tactic, based on the mother-involvement studies cited above, seemed to be the training of mothers to carry out an instructional program with their own infants at home. Such an effort, if successful, would (1) extend the number of children reached by limited professional staff with minimal budget (2) stimulate the mother's awareness of the education needs of her infant and her role in meeting these needs (3) affect positively the educational prognosis of other children in the family as the mother incorporated her training into her role as mother (4) develop a sense of dignity and worth as the mother demonstrated self-help capabilities (5) provide a setting where family problems related to school failures and disappointments but beyond the mother-infant focus could be openly discussed and (6) contribute to the training of indigenous leadership by encouraging these mothers to become involved in the agencies for educational and social change within their own community.

### METHOD

#### Recruitment

Twenty mothers with infants between the ages of twelve and twenty-four months were recruited from the economically depressed neighborhoods of Champaign-Urbana, a community of 100,000 in central Illinois.<sup>1</sup> Staff workers at the offices of Aid to

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<sup>1</sup>The original intent had been to include a control group of twenty infants and mothers; however, an adequate number of mothers able to participate could not be recruited, and the attempt to maintain a control group was abandoned.

Dependent Children and the Public Health Department were the primary referral sources. In addition, an interviewer canvassed certain acutely disadvantaged sections of the city to locate disadvantaged families new to the community or otherwise unknown to the referring agencies. Sixteen of the twenty mothers who comprised the training group were ADC recipients. The families of the remaining four children met the OEO poverty definition acceptable for Head Start admission.

During these initial contacts, the mother was asked if she were willing to attend a two-hour class each week where she would be instructed in teaching techniques to use with her infant at home. In order to make appropriate baby-sitting arrangements for her children, she would be paid \$1.50 an hour to attend these meetings. Transportation to and from the meetings would also be provided. She was asked, further, to agree to apply these teaching techniques with her infant for a period of time each day. She would not be paid for this work-time at home, but the toys used to implement the instructional program would be given to her baby. Finally, it was explained that the infant would be tested at home before and after the program to determine how successful she had been as a teacher.

Although the mothers readily acknowledged the importance of education to their children, they did not recognize their contribution to that enterprise. The suggestion that they could learn ways to stimulate the mental and language development of their babies at home was received with skepticism. Needless to add, many mothers agreed to participate in the program with only a limited commitment. Generally, it might be fair to characterize the mothers' initial acceptance of the program as follows: They wanted their children to have a better education than they had had and were favorably impressed by the educational opportunity offered their infant regardless of how inadequate they may have felt about their own participation as a "teacher."

#### Background of the Mothers

After enrollment had stabilized in November, the group of twenty included eighteen Negro and two Caucasian mothers. Three of the Negro women were grandmothers who were included because they assumed the primary responsibility for the infants. The two white mothers and four of the Negro mothers had been born in the North; the others had migrated from the South, principally from Mississippi but also from Georgia and Arkansas. The ages of these mothers ranged from 19 to 56 years, with a mean age of 29.4 years. Their educational levels ranged from 6 to 12 years, with a mean of 9.2 years. These mothers had from 2 to 12 children, with a mean of 4.9 children.

Public assistance through Aid to Dependent Children was the total or partial support for sixteen of the families included in

this study, and the fathers were absent from all but two of these homes. Six of these mothers worked on a part-time basis (domestic day-work) to supplement ADC funds; three had stable full-time employment (a hotel maid, an aide in a nursing home, and a drug store cashier), and one attended a beauty culture school on a full-time basis. In the families of the three participating grandmothers, the mothers of the infants were full-time students. Four of the families in this study were self-supporting. Three of these families represented intact marriages. Two mothers were employed full-time; one worked a sixteen-hour day at a factory assembly-line job and an evening food service job and the other supported herself as a food caterer. With only one exception (the family in which the mother worked a sixteen-hour day) the annual income of these families did not exceed \$4000.

#### Initial Characteristics of the Children

The mean chronological age of the twenty infants who participated in this study was nineteen months at the time of the initial intelligence test, with a range of 14 to 26 months. Nine of these subjects were female, 11 were male; 18 were Negro and two were Caucasian. The initial mean Cattell IQ of this group was 97.6, and IQ scores ranged from 79 to 120.

#### Intervention

To encourage discussion, the twenty mothers were divided into two groups of ten which met separately throughout the program. Two staff members conducted the weekly two-hour meetings over the seven-month period of the study. One staff member functioned as a group leader while the other served as a recorder. After the meeting, both staff members evaluated in writing the content presented and the interactions among the members of the group. In addition, they made monthly (more often when necessary) home visits to reinforce the teaching principles introduced at the meetings and to help each mother establish a positive working relationship with her baby. These visits also provided staff members an essential observation of the appropriateness of the infant curriculum as well as their success in communicating teaching strategies to the mothers. In all cases, these visits were welcomed by the mothers.

In general, the weekly meetings were divided between child- and mother-centered activities. The first category included the presentation of educational toys and materials with an appropriate teaching model and required strong staff leadership. The mother-centered activities involved group discussion directed toward child-rearing problems in today's society but was intended to foster a sense of responsibility in the mothers for themselves, their families, and the community in which they live. That portion of the meeting often involved minimal leader participation so that

the group would provide its own vehicle for attitude change through interactions among the members.

Eleven educational toys were chosen as the instructional media for the intellectual and language stimulation of the infant but were, of course, equally important as the media in which a positive interaction between mother and child occurred. In addition, crayons, scissors, play dough, chalk and slate, inexpensive books, a lending library of thirty wooden in-lay puzzles, and simple object lotto games were provided. A child's table and chair and a plastic laundry basket for toy storage were supplied as conditioners of good work habits. These materials were chosen through an evaluation of those used in the earlier infant tutorial program and were selected to offer a wide range of experience in sensory-motor as well as conceptual and language development. While the books were primarily intended to encourage language interactions between mother and child, all of the program toys created opportunities for verbal development. As the leader demonstrated teaching techniques with each new toy, she used key words which the mothers were to use and which they were to encourage their children to say.

Certain principles of teaching were repeated often at the weekly meeting and encouraged during the home visits.

1. If you have a good working relationship with your child, you can become an effective teacher. A good relationship is based on mutual respect.

2. Be positive in your approach. Praise or acknowledge the child's success in each new task, even when the child simply tries to do as he is instructed. In correcting a mistake, minimize it. Show the right way immediately; have the child attempt the task again and praise him.

3. Break a task into separate steps. Teach one step at a time, starting with the simplest. Do not proceed to the next step until the child is successful with the first.

4. Introduce one toy at a time. Put one toy back in the laundry basket before presenting another. With beads or toys with many parts, use a container on the table to teach order and to prevent spills.

5. If the child does not attend or try to do as instructed (and you are absolutely sure he can do what is asked), put the toys away until later. Try again when he is ready to work. Do not scold, beg, or bribe. This time together should be fun for both of you.



The instructional program for the child developed as follows:

1. The table and chair set and plastic laundry basket were considered essential in encouraging organization in the home and with the child. Mothers were instructed to work with their babies at the child's table and with the child on his chair. Initially, work periods were only ten minutes but increased as the child's attention span lengthened and as the selection of toys increased.

2. Each mother collected or was given a set of five seriated cans. Introducing two cans, she stressed the words big and little. She taught her baby to stack, saying, "Put the little can on top of the big can." Then the cans were inverted: "Put the little can in the big one." When the child successfully performed these tasks with two cans, the mother increased the number until he was able to perform both tasks with five cans. The use of cans preceded the nested boxes which were distributed later.

3. Initially, mothers were instructed to remove the graduated rings from the spindle and arrange them in order on the table. The child was to place the rings on the spindle in order. When this format was followed, even the youngest baby was successful, and the graduated rings proved to be a good first toy for developing a sense of accomplishment.

4. In introducing snap beads the mother stood behind the child's chair, clasped her hands over his, and repeated the motions of push and pull by snapping and unsnapping the same two beads. She exaggerated this movement, repeating the key words. When the child approximated these motions, he was ready to try to snap the beads without help. Later, he had to be helped again to learn to move the hand that held the chain of beads up to the next bead.

5. Although five geometric shapes were to be placed in their proper holes in the form box, each mother began with the easiest shape, the circle. Calling the shape by name, she helped her child insert the circle until he could do it by himself. Other shapes were added one at a time.

(The Nested Cans, the Graduated Rings, the Snap Beads, and the Form Box were introduced during the first ~~six~~ meetings. The first two toys helped to develop a sense of success; the other two required patience from mother and child. Help from the mother was particularly needed with babies under twenty months of age. Since most of the babies had an attention span of less than twenty minutes at this stage of the program, four toys and two simple picture books were adequate materials for daily at-home work sessions.)

6. Stringing beads was a more difficult task than snapping beads. Mothers needed to demonstrate many times and, as with the snap beads, helped their children by standing behind their chairs. Babies under eighteen months were not ready for this toy, but most of the children were completely successful with this task between the ages of twenty and twenty-two months.

7. Masonite Shapes in various colors and sizes were presented initially to emphasize form and size. Color was not stressed, and this toy served as an extension of the form box and of the concept of big and little introduced with nested cans. Mothers were instructed to stress the words circle, square, big circle, little circle, etc. They were encouraged to improvise verbal games such as "Give me the big circle. Put the little circle in the box."

8. Only two nested boxes, big and little, were presented at first. In addition to the stacking and inverting tasks introduced with nested cans, the child learned to cover the little box with the big box, "to hide the box." Later, when working with several boxes, the mother prearranged them to insure the child's success.

(At the end of the third month of the program, older children were performing fairly successfully with all of these toys. Several were attending for as long as an hour, and the mothers were encouraged to repeat the complete program of toys daily.)

9. The pounding bench, busy box, and music ball were distributed to mothers the week before Christmas and were described as "fun toys." They were not to be kept with the program toys or played with at the table and chair; rather, the baby could play with them whenever or however he chose. Mothers who complained that their babies didn't want to stop working when they put away the toys were instructed to use the fun toys as transfer toys. The mother was to put away the program toys when she decided the session was finished and to give her baby one of the fun toys as a substitute. For those babies who valued the time with mother rather than the toys, this substitution was not very successful.

10. The lending library of thirty wooden in-lay puzzles (3-12 pieces) was initiated during the third month of the program. Mothers of younger babies kept the same puzzle for two or three weeks, but other mothers exchanged puzzles on a weekly basis.

11. During the second half of the program, language development was increasingly emphasized. Mothers received a list of antonyms with examples of how to teach them to their babies. The teaching of prepositions was demonstrated with program toys. Several simple finger plays were also taught. Books such as The Three Little Kittens and Mother Goose Nursery Rhymes stressed dramatization in story-telling. These kinds of activities were

not enthusiastically received by the mothers, perhaps because they were self-conscious about their own speech patterns, and the two white mothers provided most of the favorable response to these activities. All of the mothers, however, enjoyed teaching body parts to their babies and some were successful with as many as 10-15 parts of the body.

12. All of the babies enjoyed playing with play dough, scissors, crayons, and slate and chalk. Although these materials were offered to the child during the work period so that his mother could supervise, their use was relatively unstructured. Other than teaching their babies to make a circle by going "round and round" with a crayon on a large newspaper and with chalk on the slate, the mothers were encouraged to allow their babies to express themselves freely with these materials. Several of the older babies learned to use the scissors very well and to show control with large crayons. A home project which proved very successful in stimulating language was a picture scrapbook, a loose-leaf notebook with durable, heavy-grade paper. The mother or older children in the family cut pictures from magazines and catalogs which the baby was able to identify by naming or pointing. These pictures were pasted in the scrapbook, a source of pride and accomplishment shared by mother and child.

13. A set of 10 wooden blocks, the learning tower (5 graduated, plastic cylinders), and Unifix Cubes (10 one-half inch interlocking plastic cubes) were introduced near the end of the program to demonstrate transfer of learning to the mothers. Mothers were requested to provide no instruction and to observe the reactions of their infants when presented with these toys. In order that a staff member could also observe these reactions, these toys were distributed during a home visit. Staff and mothers were delighted to see that most of the babies stacked and inverted the plastic cylinders from the learning tower as they had the cans and boxes. They were able to join the interlocking cubes with the same skill they had acquired with the snap beads.

14. Four kinds of Object Lotto Cards were rotated during the last month of the program. The pictures on the cards were familiar to most of the babies, and the older children quickly learned to match the cards to the pictures on the large lotto card.

The mother-centered aspect of the weekly meetings was not planned by the staff alone; rather, the group response to previous material guided the selection of discussion topics. The leader was prepared to introduce a new topic at each meeting but was willing to change the agenda when a more relevant topic was brought up by one of the mothers. Among the topics which provoked meaningful discussion were child discipline, birth control, and the generation gap. On occasion, pamphlets or magazine excerpts were distributed for reading prior to discussion sessions. Several films

("Guess Who's Coming to Dinner?" and "Palmour Street") and speakers (a Black Power advocate and a family planning expert) were included as were a trip to the public library to provide cards for all mothers and to explore the resources of the children's library and a visit to a demonstration nursery school. After group identity had been established, discussion sessions were sometimes replaced with role playing. (One mother played the role of a teenage girl who wanted to quit school and get married. She came home late to find her mother and grandmother waiting up for her and announced her decision to marry. From this point, the acting members and the group as a whole explored various aspects of the generation gap.)

### Evaluation Procedures

Interim data were to be collected and evaluated at the end of the first and second years (Spring, 1968; Spring, 1969). When the children reached the age of four (Spring, 1970), postdata were to be collected and the study terminated. Three major comparisons were to be made: (1) A comparison at the end of each of the three years of the study between the twenty children whose mothers had been trained to teach them at home and a comparable group whose mothers had not been provided with this training (2) A comparison at the age of three years between the children whose mothers had been trained to teach them at home and a group of middle-class children (3) A comparison between the children whose mothers had been trained to teach them at home and the infants who were tutored by professional personnel in the preceding Kirk study. Because of the termination of funding, this study continued less than a year and these longitudinal comparisons cannot be made. Since it was not possible to maintain a control group, that interim comparison cannot be made; neither can an interim comparison be made with the infants tutored professionally, since the length of tutorial intervention doubled the intervention of this study at its termination.

Initially the twenty infants were administered the Cattell Infant Intelligence Scale and were to receive the Stanford-Binet Intelligence Scale at the end of the first year of intervention. At the termination of this study (seven months), eight infants, according to the judgment of the examiner, were incapable of being tested with the Binet and were administered the Cattell. The primary intent of the initial Cattell was to match an experimental and a control group, and comparisons between test-one Cattell scores and test-two Binet scores were not considered. Assessment of children at this age is difficult and tentative at best, and these data in the absence of a control group provide little information on the development of the infants.

A more appropriate evaluation of this truncated program can be made through a consideration of the data recorded by staff members during the monthly home visits and after each weekly meeting. Data on mother participation was gathered on five

variables. Absences from the weekly meetings were recorded. The levels of participation at the meetings were rated (1) exhibits leadership (2) exhibits interest but remains essentially a silent participant and (3) exhibits indifference or boredom. Mothers were rated ego-centered if their major concern at meetings was over personal problems rather than the educational goals of the program for their children. In an anonymous ballot mothers indicated whether they desired to participate in a consecutive, second-year program. The final assessment of mother participation was whether she was able to extend the activities of the program through innovative use of materials, through the preparation of a picture book designed to stimulate the child's labeling skills, through extending her teaching skills with other children in the family or neighborhood.

Mother-child interaction as it related to the instructional program was assessed in three areas. The mother's teaching relationship with her child was rated (1) to indicate a highly effective teaching relationship with appropriate positive reinforcement (2) to indicate a teaching relationship inappropriate at times (too little or too much positive reinforcement, too high or too low expectations for child performance) and (3) to indicate an essentially negative teaching relationship (difficulty in praising the child, short-tempered, inconsistent). The interest and attention span shown by the child working with program materials were rated during home visits. A positive rating indicated that child and mother worked agreeably with program materials for increasingly sustained periods. Finally, the child's spontaneous verbalization was rated as appropriate and adequate or conspicuously reduced while working with program materials.

Child performance was assessed during home visits on nine activities: snap beads, form box, string beads, masonite shapes of different colors and sizes, nested boxes, puzzles, books, identification of body parts, and picture lotto. The child was rated positively if his use of these materials was appropriate and essentially correct. Since two items (snap beads and nested boxes) were mastered by all children, they were eliminated from further consideration in evaluating differential performance.

## RESULTS AND DISCUSSION

A preliminary examination of the observational data indicated that the age of the infant at the initiation of the program and whether his mother was employed full-time were of governing importance. Although working mothers were not excluded during recruitment, staff members noted early in the program that these mothers were less able to devote time and energy to attending the weekly meetings and to implementing the program's goals at home

with their children. For this reason, the data for the six mothers who were employed on a full-time basis and for their children are presented separately. A further examination of the data within the group of nonworking mothers (N=14) indicated that the age of the child at the initiation of the program was of considerable importance to many of the variables assessed, and, therefore, the data for the younger children (13 - 19 months) are presented independently of the data for the older children (20 - 27 months) of nonworking mothers.<sup>2</sup> The smaller N of the working-mother group precluded an age categorization; further, age did not seem to be a relevant factor with this group. Certain family background characteristics were unequally distributed within these groups and may be pertinent to the results obtained. Although the mothers in the nonworking and working groups had similar educational levels, the presence of a father figure was noted more frequently in the homes of the nonworking mothers. On the other hand, the working mothers had to meet the demands of fewer children. Within the nonworking group, the older children had a substantial advantage on two of these factors: fathers were most often found in these homes and the mothers in this group had the highest educational level. These families were, however, considerably larger than either the families of the working mothers or the families of the nonworking mothers of younger children. These data as well as the observational data and the results of standardized tests are presented in Table 1.

Clearly, the participation of mothers who worked on a full-time basis outside the home was inferior in all respects to that of the mothers who were not fully employed. Their attendance was markedly poorer than that of the nonworking mothers whose commitment to program goals is perhaps best shown in the high percentage who elected to participate in a second-year program. Only 33% of the fully employed mothers voted to continue. The nonworking mothers tended to show leadership qualities and attentive interest at the weekly meetings while 50% of the working mothers appeared bored or indifferent. Concomitant with their rather negative response at meetings is the high percentage of working mothers (83%) who were rated as ego-centered or primarily concerned with personal problems rather than the educational goals of the program for their children. Several of these mothers, in fact, tended to exploit the meeting time to verbalize guilt feelings related to their inability "to give to" or "to do for" their children. Finally, only 17% of the working mothers were considered to be innovative in their use of program materials or able to extend the goals of the program through their own initiative. A rather high percentage of the nonworking mothers demonstrated an ability to extend their

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<sup>2</sup>Nineteen months was chosen as the cut-off point for the younger group since half of the twenty children were nineteen months or less at the initiation of the program.

Table 1

## Family Background, Observational and Standardized Test Data

Variable	Working Mothers (N=6)	Nonworking Mothers (N=14)	Nonworking Mothers (N=8) Younger Infants	Nonworking Mothers (N=6) Older Infants
Initial CA (in months)				
Range	17 - 22	13 - 27	13 - 19	20 - 27
Mean	19.3	19.2	16.1	23.3
FAMILY BACKGROUND				
Father figure in home	17%	50%	38%	67%
Mean number of children	4.0	5.3	4.1	6.8
Mean educational level of mothers	9.5	9.1	8.8	9.7
MOTHER PARTICIPATION				
Mean absences	10.2	2.5	3.5	1.2
Class participation				
1. Leadership	33%	21%	0%	50%
2. Attentive	17%	64%	75%	50%
3. Bored, indifferent	50%	14%	25%	0%
Ego-centered	83%	21%	38%	0%
Elect 2nd Year Program	33%	93%	88%	100%
Extended activity	17%	50%	25%	83%
MOTHER-CHILD INTERACTION (with program materials)				
Teaching relationship				
1. Highly effective	0%	43%	38%	50%
2. Inappropriate at times	17%	43%	38%	50%
3. Negative	83%	14%	25%	0%
Child's interest	17%	86%	75%	100%
Child's spontaneous verbalization	33%	86%	75%	100%
CHILD PERFORMANCE: PROGRAM TASKS				
Form box: Number of forms (1-5) placed	2.3	3.5	2.6	4.7
String beads	67%	79%	62%	100%
Shapes, colors, sizes	33%	57%	38%	83%
Puzzles	33%	57%	38%	83%
Books	17%	50%	25%	83%
Identifying body parts	50%	57%	38%	83%
Picture lotto	33%	57%	38%	83%
STANDARDIZED TESTS				
Test-one Cattell	N 3 IQ 90.7 CA 18.3	N 5 IQ 104.0 CA 15.5	N 5 IQ 104.0 CA 15.5	N 6 IQ 98.3 CA 23.1
Test-two Cattell	3 86.0 25.0	5 97.4 21.6	5 97.4 21.6	6 104.3 30.0
Test-one Cattell	3 91.3 21.0	9 98.3 21.0	3 98.3 16.7	6 98.3 23.1
Test-two Binet	3 87.3 27.3	9 106.0 28.3	3 109.3 25.0	6 104.3 30.0

teaching skills. It seems fair to conclude that, in spite of verbal support of the program, the six mothers who were fully employed did not have the time or energy to implement program goals or to involve themselves in the group process at a meaningful level.

The participation ratings given to nonworking mothers of older infants were consistently higher than those assigned to nonworking mothers of younger infants. In this instance, it must be assumed that both groups of women had equal time and energy to implement these goals, and the age differences of their children at the initiation of the program may well have determined this disparity in ratings. It is altogether possible that the schedule of activities was more appropriate for the slightly older children and that a productive, rewarding situation for both mother and child was more readily attained. If the activities were somewhat less suited to the younger children, their mothers may have had greater difficulty with teaching assignments and felt less adequate as mother-teachers and program-participants. They may have sensed with considerable accuracy that the program was not immediately relevant to their infants.

The ratings on quality of mother-child interaction observed during home visits closely paralleled the participation ratings assigned to the three groups of mothers. Again, the nonworking mothers of older infants achieved the highest rating, and the attention span and spontaneous verbalization exhibited by the infants in this group was remarkable. The performance of nonworking mothers with younger infants closely followed while that of the working mothers and their infants was markedly inferior. All but one of the six working mothers exhibited an essentially negative teaching relationship. Again, working mothers, regardless of their good intentions, may have been so pressed by family and home responsibilities that they found it difficult to be consistent and patient with their infants.

The observational data from the third category, child performance on program tasks, generally support the data from the other two categories. Performance on these tasks by the children of working mothers uniformly fell below that of the children of mothers who were not employed on a full-time basis outside the home. Their performance, in fact, was no better than that of the younger infants of nonworking mothers. The mean CA of the children of working mothers was, in fact, three months greater, a factor which should have been a considerable asset on many of these tasks.

The data from standardized measures of intelligence tend to confirm the implications of the observational data. The children of working mothers scored 9 IQ points lower on the initial Cattell than the children of nonworking mothers. The test-two Binet scores



reflect a similar ranking, and these children again scored lower, 19 points below the children of nonworking mothers. The older children of nonworking mothers ranked second on the post-Binet while the younger children of nonworking mothers scored highest on the initial Cattell and on the post-Binet. (The loss in IQ of the five younger children posttested by the Cattell is not supported by other data.)

#### CONCLUSIONS

Although no substantial conclusions can be drawn from the information provided by the standardized instruments or the observational ratings, certain factors may have had governing importance within employment and age categories. Mothers who worked full-time were not active program participants at meetings or at home. The teaching relationships they established with their infants were inferior and their children generally did less well on program tasks. Finally, on the initial Cattell and on the post-Binet these children ranked lower than the children of nonworking mothers.

The younger children of nonworking mothers scored highest on the initial Cattell and on the post-Binet, and, in spite of their lower CA, did as well on program tasks as the somewhat older children of working mothers. The level of mother participation and the quality of mother-child interaction for this group was clearly superior to that of the working mothers but clearly inferior to that of the nonworking mothers with older infants, a discrepancy which may relate to the developmental nature of the program tasks.

The older children and their nonworking mothers demonstrated the superior performance on all evaluations except the post-Binet where these children ranked second. The high level of participation of these mothers and their commitment to program goals was clearly indicated by their remarkable attendance record, their ability to extend teaching skills in innovative ways, and their 100% endorsement of a second-year program. Their teaching effectiveness is reflected in the interest shown by their children in program materials, in their spontaneous verbalization, and in their consistent mastery of program tasks. It must be acknowledged that this group more often had fathers at home and the highest educational level for mothers. There were, however, more children in these families to compete for the time and attention of the mothers.

The tentative conclusions drawn regarding the effectiveness of this program in training mothers to teach their infants at home suggest several implications for future investigations in this area. In general, mothers employed on a full-time basis outside the home cannot effectively participate, and their children may be better served through day-care placement. The age of the child at the initiation of the program may well be crucial

to his progress as well as to the participation level of his mother. Grouping mothers according to the ages of their children within rather narrow limits (three to four months, perhaps) seems essential if appropriate materials are to be chosen and if effective procedures are to be followed. Such closely defined groupings should improve the quality of the at-home instructional program as well as the nature of the group interaction at weekly meetings.

Acknowledging the paucity of "hard" data obtained during the brief interval of this study and recognizing the potential charge of sentimentality, the staff who implemented this program have provided a selection of comments supplied by the mother participants to an "objective" interviewer (a staff member not affiliated with this program) at the final meeting. The responses of ten of the twenty mothers follow:

I wish they'd had this program when the rest of my kids was coming up.

They should keep the program all the time for other babies. Mothers in this should not stop but keep on doing this with this child and their others to come.

It's been good for the whole family. He's learned the value of things he has to take care of. He follows directions from others too. It's already helping my newest baby. I don't just leave him to play alone now.

The program has changed our whole house. It looks like I have more time. It makes you think more.

Sometimes neighbor children come over and I teach them. I go to other homes to teach mothers how to play with their children. Now some of them can string beads and things. It seems like when someone comes, my boy wants to show them how to do things with the toys.

I have enjoyed it very much. It has helped me and him. He has enjoyed it. It makes him more happy. I learned a lot of things I could teach him.

It helped me a lot. It helped me to learn a lot about my child that I didn't know....how to handle her when she can't have her own way. Usually I'd give in. Now, with the toys, I don't give in. It's taught her she can't always have her own way.

I learned quite a bit. It should continue. I have nine children and it's helped me know how to help them.

It has changed Cynthia. She was real stubborn. Now she behaves better. She used to be afraid of the teacher. Now she likes her.

It has changed me. I didn't use to take up much time with my children, talking to them, or taking them places. Now I take them to the parks and to church. We have a lot of fun.

These comments suggest that this pilot endeavor did indeed foster attitude change, develop self-help skills, and promote a feeling of dignity and worth in the mother-participants. Surely these changes would extend from mother to child. If alteration in the organization and direction within the home can be achieved through training programs involving the mothers of infants, the ghetto child will be given the background of experiences which prepares him for the educational and thereby the economic opportunities of a democratic culture.

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**Appendix A**

Stanford-Binet Mean IQ by Race and Sex  
Five Groups for One Year

Group	N	Test 1				diff.				Test 2			
		Cau. Male	Negro Male	Cau. Female	Negro Female	Cau. Male	Negro Male	Cau. Female	Negro Female	Cau. Male	Negro Male	Cau. Female	Negro Female
T	25	94.4 (5)*	90.7 (10)	103.8 (4)	94.3 (6)	8.8	10.3	12.4	1.4	103.2	101.0	116.2	95.7
C-I	16	105.5 (2)	84.6 (5)	95.0 (3)	95.7 (6)	-3.0	3.4	12.7	5.5	102.5	88.0	107.7	101.2
M	13	93.5 (2)	89.2 (6)	90.5 (2)	103.7 (3)	9.0	7.8	12.0	-1.7	102.5	97.0	102.5	102.0
A	24	97.2 (4)	91.1 (7)	109.0 (3)	95.5 (10)	14.0	13.9	12.3	14.2	111.2	105.0	121.3	109.7
DV	23	92.5 (2)	98.6 (7)	97.4 (5)	90.3 (9)	19.0	11.5	10.4	14.4	111.5	110.1	107.8	104.7

\*The number of children in each race-sex category is reported in the parentheses following test-one data. A discussion of differential effects of programs based on data in this table is inappropriate because of the small numbers of children in these categories.

Appendix B

Stanford-Binet Mean IQ by Race and Sex  
Five Groups for Two Years

Group	N	Test 1				diff.				Test 3			
		Cau. Male	Negro Male	Cau. Female	Negro Female	Cau. Male	Negro Male	Cau. Female	Negro Female	Cau. Male	Negro Male	Cau. Female	Negro Female
T	25	94.4 (5)*	90.7 (10)	103.8 (4)	94.3 (6)	6.2	7.7	3.4	2.9	100.6	98.4	107.2	97.2
C-I	16	105.5 (2)	84.6 (5)	95.0 (3)	95.7 (6)	4.5	6.0	6.3	6.0	110.0	90.6	101.3	101.7
M	13	93.5 (2)	89.2 (6)	90.5 (2)	103.7 (3)	2.5	10.3	13.0	1.0	96.0	99.5	103.5	104.7
A	24	97.2 (4)	91.1 (7)	109.0 (3)	95.5 (10)	13.8	8.5	7.0	6.0	111.0	99.6	116.0	101.5
DV	23	92.5 (2)	98.6 (7)	97.4 (5)	90.3 (9)	21.0	22.5	15.6	17.8	113.5	121.1	113.0	108.1

\*The number of children in each race-sex category is reported in the parenthesis following test-one data. A discussion of differential effects of programs based on data in this table is inappropriate because of the small numbers of children in these categories.

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**Appendix C**  
**Traditional, Ameliorative, and Direct Verbal Groups**  
**Results at the End of the Preschool Year**

**Tables 1 - 18**

RESULTS AT THE END OF THE PRESCHOOL YEAR

Statistical treatment of the total battery data (Binet, ITPA total, Peabody, Frostig, and Metropolitan) employed a multivariate analysis of covariance using initial Binet, ITPA total, Peabody, and Frostig scores as covariates. Since the Metropolitan was not given until the end of the first year, scores from this instrument were not available for use as covariates. A separate multivariate analysis of covariance of ITPA subtest data used the initial scores from the nine subtests as covariates. When multivariate F's were significant, Newman-Keuls tests at the .05 level were conducted in those instances when univariate F's were also significant.

Table 1

Total Battery Multivariate Analysis of Covariance  
 Three Groups for One Year

Variable	Between Mean Square	Univariate F	P less than
Binet IQ	185.0475	5.0996	.0095
Peabody IQ	201.6535	1.1704	.3183
Frostig PQ	881.6445	6.8833	.0023
Metropolitan Reading Readiness Raw Score	86.1777	1.7700	.1805
Metropolitan Number Readiness Raw Score	140.9983	10.9962	.0002
ITPA Total Language Age Difference Score*	30.3042	1.2533	.2941

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

\*To relate language age to chronological age, a difference score (in months) was computed by subtracting a child's chronological age at the time of testing from his language age.

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Table 2

Stanford-Binet Mean IQ  
Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	94.4	8.2	102.6	-7.16
Ameliorative	24	96.2	13.8	110.0	-2.65
Direct Verbal	10	96.6	13.7	110.3	-1.03

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	A	DV
	-7.16	-2.65	-1.03

Differences

T	4.51*	6.13*
A		1.62

Table Value	2.84	3.41
Corrected Table Value	4.21	5.05

$\sqrt{MS}$  within/harmonic mean = 1.482

\*Significant difference at .05 level

Summary: The Direct Verbal and Ameliorative groups, which did not differ significantly from each other, were significantly higher than the Traditional group.

Table 3

Peabody Mean IQ  
Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	79.8	12.7	92.5	31.65
Ameliorative	24	85.0	10.9	95.9	32.25
Direct Verbal	10	82.3	4.5	86.8	24.88

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.



Table 4

Frostig Mean PQ  
Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	76.8	8.1	84.9	22.36
Ameliorative	24	81.1	18.5	99.6	34.68
Direct Verbal	10	75.9	15.6	91.5	28.79

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	DV	A
	22.36	28.79	34.68

Differences

T	6.43	12.32*
DV		5.89
Table Value	2.84	3.41
Corrected Table Value	7.91	9.50

$\sqrt{MS}$   
within/harmonic mean = 2.785

\*Significant difference at .05 level

- Summary:
1. The Ameliorative group was significantly higher than the Traditional group but not significantly higher than the Direct Verbal group.
  2. The Direct Verbal and Traditional groups did not differ significantly from each other.

Table 5

Metropolitan Reading Readiness Mean Raw Score  
Three Groups for One Year

Group	N	Test 2	Covaried Mean
Traditional	25	36.6	-18.13
Ameliorative	24	40.6	-15.73
Direct Verbal	10	35.3	-20.66

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 6

Metropolitan Number Readiness Mean Raw Score  
Three Groups for One Year

Group	N	Test 2	Covaried Mean
Traditional	25	5.9	-19.56
Ameliorative	24	10.8	-15.46
Direct Verbal	10	11.5	-14.40

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	A	DV
	-19.56	-15.46	-14.40

Differences

T	4.10*	5.16*
A		1.06
Table Value	2.84	3.41
Corrected Table Value	2.50	3.00

$\sqrt{MS}$   
within/harmonic mean = .881

\*Significant difference at .05 level

Summary: The Direct Verbal and Ameliorative groups, which did not differ significantly from each other, were significantly higher than the Traditional group.

Table 7

ITPA Total  
 Mean Language Age Difference Score in Months  
 Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-5.4	4.3	-1.1	42.55
Ameliorative	24	-3.7	6.3	2.6	44.84
Direct Verbal	10	-4.1	4.9	.8	43.51

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 8

ITPA Subtest Multivariate Analysis of Covariance  
Three Groups for One Year

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F ratio for multivariate test of equality  
of mean vectors = 2.5644

df = 18 and 78                      P less than .0023

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Variable	Between Mean Square	Univariate F	P less than
Auditory-Vocal Automatic	159.5733	1.2508	.2957
Visual Decoding	270.7829	1.1947	.3119
Motor Encoding	465.8871	2.3209	.1094
Auditory-Vocal Association	305.9585	5.9433	.0050
Visual-Motor Sequencing	88.3063	.7281	.4883
Vocal Encoding	213.9001	1.4850	.2370
Auditory-Vocal Sequencing	31.3883	.2605	.7718
Visual-Motor Association	1654.1558	12.4243	.0001
Auditory Decoding	131.2965	.7036	.5000

---

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

Table 9

Auditory-Vocal Automatic Test  
Mean Language Age Difference Score in Months  
Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	- 8.4	4.0	-4.4	-25.87
Ameliorative	24	-12.1	12.4	.3	-19.70
Direct Verbal	10	-12.6	7.3	-5.3	-25.08

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 10

Visual Decoding  
Mean Language Age Difference Score in Months  
Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-1.3	3.7	2.4	85.54
Ameliorative	24	- .6	11.6	11.0	94.13
Direct Verbal	10	3.5	2.8	6.3	89.11

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 11

Motor Encoding Test  
 Mean Language Age Difference Score in Months  
 Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-1.6	3.8	2.2	33.86
Ameliorative	24	-8.2	8.3	.1	33.81
Direct Verbal	10	-6.8	.5	-6.3	22.59

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 12

Auditory-Vocal Association Test  
 Mean Language Age Difference Score in Months  
 Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-6.1	1.7	-4.4	8.93
Ameliorative	24	-5.9	6.5	.6	12.15
Direct Verbal	10	-6.9	13.9	7.0	19.13

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	A	DV
	8.93	12.15	19.13

Differences

T	3.22	10.20*
A		6.98*

Table Value	2.84	3.41
Corrected Table Value	5.02	6.02

$\sqrt{MS}$  within/harmonic mean = 1.766

\*Significant difference at .05 level

Summary: The Direct Verbal group was significantly higher than the Ameliorative and Traditional groups which did not differ significantly from each other.



Table 13

Visual-Motor Sequencing Test  
 Mean Language Age Difference Score in Months  
 Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-10.8	8.7	-2.1	80.06
Ameliorative	24	- 7.7	9.1	1.4	79.99
Direct Verbal	10	-5.4	.6	-4.8	75.13

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 14

Vocal Encoding Test  
 Mean Language Age Difference Score in Months  
 Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-15.1	10.8	-4.3	57.96
Ameliorative	24	-14.7	11.7	-3.0	63.82
Direct Verbal	10	-13.8	7.0	-6.8	56.05

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 15

**Auditory-Vocal Sequencing Test**  
**Mean Language Age Difference Score in Months**  
**Three Groups for One Year**

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	2.5	- .3	2.2	-5.69
Ameliorative	24	1.6	4.9	6.5	-2.80
Direct Verbal	10	2.3	1.5	3.8	-3.64

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 16

Visual-Motor Association Test  
Mean Language Age Difference Score in Months  
Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	- 2.6	.9	- 1.7	83.75
Ameliorative	24	10.9	- .9	10.0	104.83
Direct Verbal	10	- .7	3.7	3.0	91.33

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

## NEWMAN-KEULS PROCEDURE

## Covaried Means

Group	T	DV	A
	83.75	91.33	104.83

## Differences

T	7.58	21.08*
DV		13.50*
Table Value	2.84	3.41
Corrected Table Value	8.07	9.68

$\sqrt{MS}$  within/harmonic mean = 2.840

\*Significant difference at .05 level

Summary: The Ameliorative group was significantly higher than the Direct Verbal and Traditional groups which did not differ significantly from each other.

Table 17

Auditory Decoding Test  
 Mean Language Age Difference Score in Months  
 Three Groups for One Year

Group	N	Test 1	diff.	Test 2	Covaried Mean
Traditional	25	-4.5	5.5	1.0	67.05
Ameliorative	24	2.0	.0	2.0	65.86
Direct Verbal	10	1.2	8.2	9.4	72.29

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.

Table 18

Discriminant Analysis  
ITPA Subtests  
Three Groups for One Year

Variable	Raw coefficient 1	Raw coefficient 2
Auditory-Vocal Automatic	- .011803	.008846
Visual Decoding	- .018421	- .011414
Motor Encoding	- .024548	.028838
Auditory-Vocal Association	.079966	- .091852
Visual-Motor Sequencing	- .005782	.020653
Vocal Encoding	- .019338	.004486
Auditory-Vocal Sequencing	.003752	- .026932
Visual-Motor Association	- .072919	- .036823
Auditory Decoding	.015982	- .020990
Percent of Canonical Variation	62.29	37.71

Bartlett's Chi Square Test for Significance of Successive Canonical  
Variates

For roots 1-2 Chi Square = 39.9781 with 18 df      P less than .0022  
For roots 2-2 Chi Square = 16.0207 with 8 df      P less than .0421

Discriminant Functions

	1	2
Traditional	- 5.464	-12.203
Ameliorative	- 6.093	-13.261
Direct Verbal	- 4.545	-14.001

Appendix D  
 Traditional, Ameliorative, and Direct Verbal Groups  
 Results at the End of the Kindergarten Year

Tables 1 - 17  
 RESULTS AT THE END OF THE KINDERGARTEN YEAR

Statistical treatment of the total battery data (Binet, ITPA total, Peabody, Frostig, and Metropolitan) employed a multivariate analysis of covariance using initial Binet, ITPA total, Peabody, and Frostig scores as covariates. Since the Metropolitan was not given until the end of the first year, scores from this instrument were not available for use as covariates. A separate multivariate analysis of covariance of ITPA subtest data used the initial scores from the nine subtests as covariates. When multivariate F's were significant, Newman-Keuls tests at the .05 level were conducted in those instances when univariate F's were also significant.

Table 1  
 Total Battery Multivariate Analysis of Covariance  
 Three Groups for Two Years

F ratio for multivariate test of equality of mean vectors = 9.9011			
df = 12 and 94		P less than .0001	
Variable	Between Mean Square	Univariate F	P less than
Binet IQ	1217.6802	17.4776	.0001
Peabody IQ	70.8813	.3321	.7190
Frostig PQ	1918.4859	17.1497	.0001
Metropolitan Reading Readiness Raw Score	321.8624	11.3006	.0001
Metropolitan Number Readiness Raw Score	426.7464	31.0530	.0001
ITPA Total Language Age Difference Score*	145.9794	4.2439	.0197

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

\*To relate language age to chronological age, a difference score (in months) was computed by subtracting a child's chronological age at the time of testing from his language age.

Table 2

Stanford-Binet Mean IQ  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	94.4	5.6	100.0	-24.24
Ameliorative	24	96.2	12.4	108.6	-18.43
Direct Verbal	10	96.6	24.0	120.6	- 5.66

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	A	DV
	-24.24	-18.43	- 5.66

Differences

T	5.81	18.58*
A		12.77*

Table Value	2.84	3.41
Corrected Table Value	5.83	7.00

$\sqrt{MS}$  within/harmonic mean = 2.054

\*Significant difference at .05 level

Summary: The Direct Verbal group was significantly higher than the Ameliorative and Traditional groups which did not differ significantly from each other.

Table 3

Peabody Mean IQ  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	79.8	20.3	100.1	58.37
Ameliorative	24	85.0	14.0	99.0	55.04
Direct Verbal	10	82.3	16.6	98.9	55.58

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

A Newman-Keuls test was not conducted because the univariate F was nonsignificant.



Table 4  
Frostig Mean PQ  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	76.8	5.9	82.7	40.90
Ameliorative	24	81.1	20.1	101.2	57.56
Direct Verbal	10	75.9	23.0	98.9	57.32

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	DV	A
	40.90	57.32	57.56

Differences

T	16.42*	16.66*
DV		.24

Table Value	2.84	3.41
Corrected Table Value	7.39	8.88

$\sqrt{MS}$  within/harmonic mean = 2.603

\*Significant difference at .05 level

**Summary:** The Ameliorative and Direct Verbal groups, which did not differ significantly from each other, were significantly higher than the Traditional group.

Table 5

Metropolitan Reading Readiness Mean Raw Score  
Three Groups for Two Years

Group	N	Test 3	Covaried Mean
Traditional	25	48.4	13.76
Ameliorative	24	56.5	21.14
Direct Verbal	10	53.9	18.45

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	DV	A
	13.76	18.45	21.14

Differences

T	4.69*	7.38*
DV		2.69
Table Value	2.84	3.41
Corrected Table	3.73	4.48

$\frac{1}{MS}$  within/harmonic mean = 1.313

\*Significant difference at .05 level

Summary: The Ameliorative and Direct Verbal groups, which did not differ significantly from each other, were significantly higher than the Traditional group.

Table 6

Metropolitan Number Readiness Mean Raw Score  
Three Groups for Two Years

Group	N	Test 3	Covaried Mean
Traditional	25	12.8	-4.90
Ameliorative	24	21.0	3.18
Direct Verbal	10	20.5	2.26

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means			
Group	T	DV	A
	-4.90	2.26	3.18
Differences			
	T	7.16*	8.08*
	DV		.92
Table Value		2.84	3.41
Corrected Table Value		2.59	3.11

$\sqrt{MS}$  within/harmonic mean = .912

\*Significant difference at .05 level

Summary: The Ameliorative and Direct Verbal groups, which did not differ significantly from each other, were significantly higher than the Traditional group.

Table 7

ITPA Total  
 Mean Language Age Difference Score in Months  
 Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-5.4	.7	-4.7	21.81
Ameliorative	24	-3.7	1.3	-2.4	21.99
Direct Verbal	10	-4.1	6.7	2.6	27.91

NOTE: Initial Binet IQ, Peabody IQ, Frostig PQ, and ITPA total language age difference score (in months) were used as covariates.

NEWMAN-KEULS PROCEDURE

Covaried Means

Group	T	A	DV
	21.81	21.99	27.91

Differences

T	.18	6.10*
A		5.92*

Table Value	2.84	3.41
Corrected Table Value	4.10	4.92

$\frac{1}{MS}$  within/harmonic mean = 1.443

\*Significant difference at .05 level

Summary: The Direct Verbal group was significantly higher than the Ameliorative and Traditional groups which did not differ significantly from each other.

Table 8

ITPA Subtest Multivariate Analysis of Covariance  
Three Groups for Two Years

---

F ratio for multivariate test of equality  
of mean vectors = 1.4918

df = 18 and 78                      P less than .1159

---

Variable	Between Mean Square	Univariate F	P less than
Auditory-Vocal Automatic	245.0387	1.5900	.2148
Visual Decoding	2.8687	.0120	.9881
Motor Encoding	141.5187	.5395	.5867
Auditory-Vocal Association	205.0937	2.4090	.1010
Visual-Motor Sequencing	50.0333	.6066	.5495
Vocal Encoding	392.6569	2.0639	.1384
Auditory-Vocal Sequencing	295.5856	1.6714	.1990
Visual-Motor Association	643.2411	2.8556	.0676
Auditory Decoding	1338.7306	7.1230	.0020

---

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

Table 9

Auditory-Vocal Automatic Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	- 8.4	- .8	-9.2	-37.68
Ameliorative	24	-12.1	5.5	-6.6	-36.51
Direct Verbal	10	-12.6	12.9	.3	-29.01

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 10

Visual Decoding Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-1.3	1.2	- .1	-24.02
Ameliorative	24	- .6	2.9	2.3	-23.90
Direct Verbal	10	3.5	-1.6	1.9	-23.08

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 11

Motor Encoding Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-1.6	1.3	- .3	2.03
Ameliorative	24	-8.2	1.2	-7.0	.64
Direct Verbal	10	-6.8	8.4	1.6	7.36

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 12

Auditory-Vocal Association Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-6.1	4.5	-1.6	28.92
Ameliorative	24	-5.9	8.5	2.6	31.04
Direct Verbal	10	-6.9	13.4	6.5	37.17

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 13

Visual-Motor Sequencing Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-10.8	3.3	-7.5	30.66
Ameliorative	24	- 7.7	1.2	-6.5	31.11
Direct Verbal	10	- 5.4	2.0	-3.4	35.20

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 14

Vocal Encoding Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-15.1	6.8	- 8.3	33.92
Ameliorative	24	-14.7	4.0	-10.7	29.76
Direct Verbal	10	-13.8	14.1	.3	41.24

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.



Table 15

Auditory-Vocal Sequencing Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	2.5	-5.4	-2.9	12.29
Ameliorative	24	1.6	- .3	1.3	20.53
Direct Verbal	10	2.3	1.2	3.5	20.18

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 16

Visual-Motor Association Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	- 2.6	-2.2	-4.8	48.09
Ameliorative	24	10.9	-1.7	9.2	61.38
Direct Verbal	10	- .7	3.7	3.0	49.93

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 17

Auditory Decoding Test  
Mean Language Age Difference Score in Months  
Three Groups for Two Years

Group	N	Test 1	diff.	Test 3	Covaried Mean
Traditional	25	-4.5	.9	- 3.6	9.58
Ameliorative	24	2.0	- 2.0	.0	16.86
Direct Verbal	10	1.2	14.3	15.5	30.97

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Appendix E

Stanford-Binet Mean IQ by Race and Sex  
Three Groups for Three Years

Group	Race	Sex	N	Test 1	Test 1-2 diff.	Test 2	Test 1-3 diff.	Test 3	Test 1-4 diff.	Test 4
Traditional	Caucasian	Male	5	94.4	8.8	103.2	6.2	100.6	9.2	103.6
	Negro	Male	10	90.7	10.3	101.0	7.7	98.4	2.9	93.6
	Caucasian	Female	4	103.8	12.4	116.2	3.4	107.2	10.0	113.8
	Negro	Female	6	94.3	1.4	95.7	2.9	97.2	4.4	98.7
Ameliorative	Caucasian	Male	4	97.2	14.0	111.2	17.8	115.0	13.8	111.0
	Negro	Male	7	91.1	13.9	105.0	11.3	102.4	8.5	99.6
	Caucasian	Female	3	109.0	12.3	121.3	15.0	124.0	7.0	116.0
	Negro	Female	10	95.5	14.2	109.7	10.2	105.7	6.0	101.5
Direct Verbal	Caucasian	Male	1	84	16	100	24	108	10	94
	Negro	Male	3	96.0	15.0	111.0	31.0	127.0	21.7	117.7
	Caucasian	Female	2	109.0	14.0	123.0	20.0	129.0	16.5	125.5
	Negro	Female	4	94.0	12.0	106.0	20.8	114.8	5.8	99.8

NOTE: A discussion of differential effects of programs based on data in this table is inappropriate because of the small numbers of children in these categories.

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Appendix F  
 Traditional, Ameliorative, and Direct Verbal Groups  
 ITPA Subtests. Batteries 1 and 4

Tables 1 - 9  
 Table 1

Vocal Encoding Test  
 Mean Language Age Difference Score in Months  
 Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	-15.1	3.7	-11.4	-20.68
Ameliorative	24	-14.7	7.5	- 7.2	-19.23
Direct Verbal	10	-13.8	7.5	- 6.3	-20.10

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 2

Auditory-Vocal Automatic Test  
 Mean Language Age Difference Score in Months  
 Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	- 8.4	- 2.2	-10.6	-54.14
Ameliorative	24	-12.1	3.0	- 9.1	-52.17
Direct Verbal	10	-12.6	11.5	- 1.1	-43.19

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 3

Auditory-Vocal Association Test  
Mean Language Age Difference Score in Months  
Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	-6.1	2.9	-3.2	16.30
Ameliorative	24	-5.9	2.3	-3.6	14.81
Direct Verbal	10	-6.9	6.3	- .6	18.34

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 4

Motor Encoding Test  
Mean Language Age Difference Score in Months  
Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	-1.6	-3.0	- 4.6	- 9.94
Ameliorative	24	-8.2	-3.6	-11.8	-10.98
Direct Verbal	10	-6.8	6.9	.1	- 2.39

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 5

Visual-Motor Sequencing Test  
 Mean Language Age Difference Score in Months  
 Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	-10.8	-.1	-10.9	25.38
Ameliorative	24	- 7.7	-.3	- 8.0	25.06
Direct Verbal	10	- 5.4	-.4	- 5.8	31.48

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 6

Auditory Decoding Test  
 Mean Language Age Difference Score in Months  
 Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	-4.5	- .6	-5.1	53.85
Ameliorative	24	2.0	-4.9	-2.9	53.60
Direct Verbal	10	1.2	.9	2.1	58.98

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 7

Auditory-Vocal Sequencing Test  
Mean Language Age Difference Score in Months  
Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	2.5	-9.0	-6.5	27.09
Ameliorative	24	1.6	-4.0	-2.4	27.32
Direct Verbal	10	2.3	2.5	4.8	34.68

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 8

Visual Motor Association Test  
Mean Language Age Difference Score in Months  
Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	- 2.6	2.4	- .2	-24.43
Ameliorative	24	10.9	-4.6	6.3	-20.87
Direct Verbal	10	- .7	3.1	2.4	-25.54

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.

Table 9

Visual Decoding Test  
Mean Language Age Difference Score in Months  
Three Groups for Three Years

Group	N	Test 1	diff.	Test 4	Covaried Mean
Traditional	25	-1.3	3.9	2.6	47.29
Ameliorative	24	- .6	-8.2	-8.8	32.93
Direct Verbal	10	3.5	.4	3.9	47.45

NOTE: Initial language age difference scores (in months) from the nine ITPA subtests were used as covariates.

A Newman-Keuls test was not conducted because the multivariate F was nonsignificant.



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## ABSTRACT

Seven studies were undertaken to further extend the development and testing of an academically-oriented preschool program for disadvantaged children. The studies investigated (1) Curricula Development and Testing in Bereiter-Engelmann Program, (2) Dual Kindergarten, (3) Follow-Up Data on the Achievement of Disadvantaged Children Who Participated in an Academically-Oriented Preschool Program, (4) Achievement Components of Stanford-Binet Performance, (5) A Model for the Interpretation of IQ Changes, (6) Verbal and Nonverbal Factors in Cultural Deprivation: Evidence from Children with Sensory Handicaps, and (7) The Performance of Advantaged and Disadvantaged Preschool Children on Tests of Sound Pattern and Speech Sound Auditory Discrimination. The hypothesis, procedure, population, method, and results are recorded for each study. Appendixes include a test on part-whole relationships, criterion tests, an achievement test, and sound pattern and speech sound discrimination tests. (D0)

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RESEARCH AND DEVELOPMENT PROGRAM  
ON PRESCHOOL DISADVANTAGED CHILDREN

Curriculum Development and Evaluation

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## PREFACE

The studies and data presented in this report aim at two objectives. First, is curriculum development and evaluation; second is research on social and psychological factors in the intellectual functioning of culturally disadvantaged children.

Under the overall direction of Dr. Merle Karnes a number of highly qualified investigators have pursued these objectives with diligence and ingenuity. Furthermore, they have, in important instances, pursued objectives to conclusions which are at the very least provocative. To many they will be startling and disturbing. Thus the sociologists, Farber, Lewis and Harvey conclude in Volume III:

Technical emphasis in educational reform (particularly that which is intended for the dispossessed) may preclude any possibility of educators making a positive contribution to the obliteration of the social and economic injustices which victimize millions of Americans...Technical emphasis in education, as it is in welfare services, is a symptom of a condition which may be termed progressive status-quoism.

Volumes I and II deal largely with the first objective, curriculum development and evaluation, and as such are excellent examples of the highest quality of the "technical emphasis" to which the sociologists on the team refer. In Volume I, Karnes, Hodgins and Teska attack such concerns as the relative effectiveness of five differing methods of preschool educational intervention with the disadvantaged child. Other concerns are to determine how long such special intervention must be continued, the optimum age for intervention, and, how much can be done by paraprofessionals in the classroom and by mothers in the home.

In Volume II, Bereiter, Engelmann, Washington and colleagues describe efforts to burrow deeper into the processes and products of educational intervention on behalf of the disadvantaged. Taking the view that the Stanford-Binet may be considered as an achievement test for the "hidden curriculum" of the middle-class home, they boldly set about to construct a compensatory curriculum geared to the Binet, and to test the curriculum. In so doing they throw new light on the criticism that substantial I.Q. gains in programs for

the disadvantaged are merely a result of "teaching for the test." In another section Bereiter grapples with the theoretical complexities of interpreting changes in I.Q.

Volume III deals almost exclusively with the description and analysis of family and kinship, neighborhood and community variables that bear on children's readiness and competence to enter into formal education. Farber examines this transition from home to school in the perspective of the necessity of articulation and accommodation of private and public cultures. He posits that where private and public culture clash those families and individuals whose way of life is incompatible with the public culture are superfluous population. Harvey describes life in a white, lower class, semi-rural community. Because his frame of reference is the same as that of Farber and Lewis, his findings extend the implications of the total report beyond the question of racial differences. Lewis presents a sociologically derived model and definition of "competence." For him, competence is a social dimension and in that perspective input from the family, neighborhood, and community sets severe limits on the part that formal schooling can play in the development of competence.

This is a multi-disciplinary multi-volume work which on the one hand undertook, with success, to add to our knowledge of educational curricula and techniques which enhance the academic performance of culturally disadvantaged children. On the other hand, an equally important objective was to inquire into factors which underlay the intellectual functioning of children. In these volumes we are confronted with the cruel paradox that acceptance of conclusions arrived at in pursuit of the second objective, raises grave doubts as to the value of present day endeavors aimed at the first objective. Resolution of this paradox will not be for the timid.

William P. Hurder  
Director, Institute for  
Research on Exceptional Children

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Lest this become an itemized extolment of all our friends or recent years, we must pass over the contributions of a number of dedicated and talented people who served valuably as teachers, students, supporting staff, or helpful colleagues and confine these acknowledgements to the several people who had a direct and major influence on the course and character of the project. They are Siegfried Engelmann (primum mobile), Jean Osborn, Elaine C. Bruner, Valerie Anderson, and Jessica Daniel.

Carl Bereiter  
Ernest D. Washington



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## INTRODUCTION

The seven studies reported here grew out of the earlier development of "an academically-oriented preschool for disadvantaged children," described in the final report for Project Number 2129 (Contract No. OE 4-10-008), titled, Acceleration of Intellectual Development in Early Childhood. The first report describes subsequent modifications of the academically-oriented program and effects thereof. The second report deals with an administrative variation of the program, in which it was employed as a supplement to a regular kindergarten program rather than as a preliminary to or substitute for it. The third report presents follow-up findings through second grade for the original pilot group whose preschool attainments were reported in the earlier study. The fourth study employed a different experimental program designed to investigate achievement components in Stanford-Binet performance. The fifth report presents a simple mathematical model to account for IQ gains and losses during and following educational interventions. An earlier study had found a low correlation between child IQ and parent education among deaf children and the sixth study was intended to explore this relationship among visually-handicapped children. The expectation was that these children, being more than normally dependent on the language medium, would show unusually high correlations of IQ with parental education level. The final study attempts to clarify, in a pedagogically relevant way, the auditory discrimination difficulties that disadvantaged children have been claimed to possess.

## SUMMARY

This project comprised seven studies having the general purpose of further extending development and testing of the academically-oriented preschool program for disadvantaged children and investigating questions related thereto. Procedures and results are summarized separately for each study.

### 1. Curricula Development and Testing in Bereiter-Engelmann Program.

Procedure: Over a three-year period programs in language, reading, and arithmetic were substantially revised through close observation of difficulties encountered by more advanced groups and try-out of changes on groups lagging behind them. Evaluation was by day-to-day curriculum-specific testing and by standardized end-of-course tests.

Results: There was a general tendency over the three years toward higher mean end-of-course achievement and toward a smaller number of low achievers. The development program led to many suggestions for more effective teaching.

### 2. The Dual Kindergarten

Procedure: Ten disadvantaged children who were given the academically-oriented program as a supplement to a regular kindergarten program were compared with 10 similar children who had only the regular program.

Results: Experimental children performed significantly better on measures of scholastic achievement, but not on IQ or total ITPA score.

### 3. Follow-Up Data on the Achievement of Disadvantaged Children Who Participated in an Academically-Oriented Preschool Program.

Procedure: Twelve surviving members of the original pilot group used in development of the academically-oriented program were studied in second grade by means of parent and teacher interviews, classroom observations, administration of the California Achievement Test, and readministration of the Stanford-Binet and ITPA.

Results: Five of the children were performing above grade level, three somewhat below grade level, and four well below grade level on the California Achievement Tests. Data from readministrations of the Stanford-Binet and ITPA showed that children in the lower achieving groups had not maintained their gains as well as the high achievers.

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#### 4. Achievement Components of Stanford-Binet Performance.

Procedure: In order to test the hypothesis that IQ gains were the result of learning of conceptual content tapped by the IQ test, a curriculum devised by working backward from Stanford-Binet items to define a universe of content for which the Stanford-Binet could serve as a content-valid achievement test was taught to 20 four-year-old disadvantaged children.

Results: IQ gains on the Stanford-Binet were of about the same magnitude as those obtained from the academically-oriented program and as those obtained on the WPPSI, a test whose content was kept hidden from teachers and curriculum writers. Attempts to predict IQ test performance from an inventory of specific curriculum attainments, while successful, suggested that the relation was general rather than specific. Results were thus contrary to the hypothesis of the study.

#### 5. A Model for the Interpretation of IQ Changes.

Procedure: A mathematical model was developed and tested on data from current preschool experiments, which treats IQ gains during treatment and losses following termination of treatment as a function of expected IQ for the group, effectiveness of treatment, the extent to which induced IQ gains carry forward into increased potential for future growth, and the extent to which induced mental age increments are offset by subsequent reduced increments.

Results: The model provided a good fit to available data, a parsimonious interpretation of losses following termination of treatment, a pessimistic prognosis for the long-term survival of IQ gains, and a promising index of effectiveness of programs.

#### 6. Verbal and Nonverbal Factors in Cultural Deprivation: Evidence from Children with Sensory Handicaps.

Procedure: A previous study had found a very low correlation between child IQ and parent education among deaf children, leading to the inference that language was the primary medium through which social-class related differences in intelligence are transmitted. The present study was conducted as a further check on this hypothesis, examining comparable correlations for visually-handicapped children. The expectation was that these children, being more than normally dependent on the language medium, would show unusually high correlations of IQ with parental education level.

Results: Correlations in five groups revealed no significant differences from the correlation obtained among the deaf. The appearance of high percentages of children with IQs below 70 suggested that organic intellectual impairment may have been

responsible for the low correlations. It was concluded that children with sensory handicaps were not suitable subjects for testing hypotheses concerning experiential factors in mental growth.

7. The Performance of Advantaged and Disadvantaged Preschool Children on Tests of Sound Pattern and Speech Sound Auditory Discrimination.

Procedure: Fifteen disadvantaged Negro kindergarten children were compared with fifteen white children of similar age on their ability to discriminate speech and non-speech sounds, using a simplified test procedure.

Results: Advantaged children did better on discrimination of speech sounds than non-speech sounds; the reverse was true of disadvantaged children. Disadvantaged children had relatively much more difficulty discriminating final consonants than beginning consonants. Results were attributed to Negro dialect characteristics rather than to a generalized auditory discrimination deficit.

## THE INDIVIDUAL STUDIES

### Curricula Development and Testing in Bereiter-Engelmann Program

Siegfried Engelmann

The purposes of the curricula development component of the project were:

1. To provide teachers with more immediate feedback about teaching techniques.
2. To allow for the study of how children learn specific skills in greater detail.
3. To allow for a more articulate expression of how the general learning performance of a child (as measured by such instruments as the Stanford-Binet) relates to more specific performance on tasks taught in the program.
4. To ascertain which skills in the program are sequenced and presented relatively less efficiently than other skills in the program (which information would derive from the amount of time necessary for a child to reach a specific criterion of performance on a particular teaching objective).

The investigation, in summary, focused on two primary areas: one concerned with the behavior of the children in mastering specific objectives, the other concerned with the effectiveness of the curriculum, as determined by the relative difficulty of specific tasks, compared to other tasks.

#### PROCEDURE

General: The investigation centered around the three primary academic skills taught in the program -- reading, arithmetic, and language -- over the three-year period. During the school year of 1967-68, a more intensive attempt at developing systematic procedures for program evaluation and revision was conducted on the entering four-year-old children. The investigation focused on language skills. The amount of testing and observation time needed to carry out this undertaking mitigated against a broad investigation of all skills in reading, arithmetic, and language. It was felt that the investigators could do a more creditable study by working on the language component and conducting a more detailed evaluation, rather than attempting a more ambitious evaluation and sacrificing detailed data.

The evaluation of the "trouble shooting" program revisions was primarily informal but had several formal components. Formal instruments were used both to give a gross indication of how many skills

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the program taught during a given period and to document specifically how well children were taught specific tasks. The assumption was that if programs were relatively improved, there would be a performance improvement on achievement tests and on IQ tests (which tests would reflect the effectiveness of the language program). More specific measures (constructed for the experiment) were needed, however, to document the teaching and to provide the investigators with data about the variables associated with the process of teaching children so that they achieve a specific criterion of performance on a specific set of skills.

#### SUBJECTS

Subjects, as noted above, were four-year-old disadvantaged children (group III in the B-E program), who attended classes for 2½ hours a day in the mornings for two years. Children were grouped homogeneously, initially on the basis of IQ scores. They were then re-grouped on the basis of performance within the language program. One teacher worked exclusively with each group.

#### Informal Evaluation:

The informal evaluation consisted primarily of "brain storming" sessions in which the teachers compared observations on the relative difficulty of particular tasks included in the program. The teachers were not primarily responsible for making curricula changes, merely for noting problem spots. If the four teachers seemed to agree that a particular task or series of tasks was "difficult," their judgement was taken as prima facie evidence that the skill was poorly programmed.

A curriculum writer then made changes that were designed to remedy the situation. He made changes either by (1) lengthening the sequence and breaking it into smaller steps that were to be distributed over a longer period of time, or (2) developing a new method of demonstrating the concept (new instances of the concept, changes in the statements used in connection with the demonstration, changes in the type of responses required from the children, etc.)

Whether or not the change was relatively effective was determined on an "eye ball" basis. The variation in performance between the top performing disadvantaged children and the lower performing children is substantial. The top performing children usually achieve specific instructional objectives at least two times as fast as the lower performing children at the beginning of the year. By the end of the year, the difference decreases such that the top performing group is now learning at about one and a half times the rate of the bottom performers. We used this observation as the basis for evaluating the effectiveness of a given change. The problem is encountered first with the top performing children

(since they are proceeding through the program more rapidly and reach a particular trouble spot before the low performing groups reach that part of the program). A change is made in the program.

The assumption is that if the change is effective, the lower performing children will achieve the objective relatively faster than would be expected. If, for example, it took the top performing group 30 minutes to achieve a desired criterion of performance on a particular task (one that was deemed troublesome) one would expect (in the early part of the year) that the lower performing children would require at least 60 minutes to achieve the same objective, unless a change was made. If a change were made and the low performing children still required at least 60 minutes to achieve the objective, the change would be considered ineffective. If the low performing children required only 40 minutes, for example, to achieve the objective, the change was deemed effective. One could conclude (in a very rough manner) that the higher performing group, had it been exposed to the same change, would have achieved the objective in 20 minutes or less, a saving of perhaps 10 minutes, and more important, an indication that the objective was achieved with fewer errors and, consequently, perhaps greater enthusiasm.

The curriculum changes were not quantified because the procedure above was not always (and could not always be) followed rigidly. The procedure seems to have a great deal of potential for evaluating performance of children, but the problem is complicated by three factors:

1. Sometimes, the fault was not with the curriculum but rather with the method in which the concept under consideration was presented to the children. The remedy for a faulty or weak presentation was to change the presentation.

2. Sometimes, the remedy was obvious and could be offered very quickly (either by the other teachers or by the curriculum specialist). In some cases, the teacher wasn't presenting in the appropriate manner. In other cases, there was a minor fault in the program (perhaps a confusing example). The change was made immediately and the group with which the teacher was working at that time benefited from the change. In other words, the top group did not always go through the program "the wrong way" and the lower performing group "the right way." Sometimes changes were made so that the top group benefited from the change.

3. Sometimes, the factor of  $2\frac{1}{2}$  early in the year and  $1\frac{1}{2}$  later in the year does not apply to disadvantaged groups. It seems to apply only if the original program is reasonably well sequenced. If one were to try to use very poor teaching techniques to try to teach such concepts as colors or sequencing events to a high and low group; the difference between the groups would be far

more than the  $2\frac{1}{2}$  factor. The difference might be more accurately expressed by a factor of 5.

#### Formal Criterion Testing:

The formal testing was based on the premise that intelligence is the sum of what a child had been taught during his lifetime. Translated into the instructional situation, the premise would hold that a program responsible for an increase in IQ or achievement must have achieved very specific objectives -- a number of them. The most accurate way to express what the program had done is to detail everything that had been taught. A test that samples the behavior of the children cannot specify precisely what had been taught. Furthermore, it cannot account for generalizations that were not taught or demonstrate how these generalizations were a function of what had been taught. The most accurate evaluation of a program is one that demonstrates everything that had been taught in the program, with an indication of the amount of time required to teach each concept. The number of things actually taught gives an indication of what the program did to change the behavior of the children. (Note that skills are not necessarily taught if the teacher merely goes through a teaching routine. They are taught only if the children can demonstrate after instruction that they can perform on the skills that were set out to be taught. Incidentally, it helps if one can demonstrate that they had not mastered the skills before entering the program.) The rate required for children to meet specific instructional objectives gives a more detailed, fine-grained profile of the program. The check list shows what the program has achieved for each child. The rate analysis indicates in greater detail where the program is relatively strong and where it is relatively weak. A skill that requires four times the amount of teaching may be indicative of specific weakness in the program.

The formal procedure used to evaluate the children's performance was to develop check lists of each item taught in the program. For example, one of the broad objectives of the program was to teach children the names and functions of parts of familiar objects. Real objects and pictures of objects were used to teach these concepts. The part-whole part of the curricula was organized and systematized into a set of 132 lessons. Examples of the instructional materials and accompanying illustrations are given in Appendix A. Every object and every part that was supposed to be taught in the program was included in a test. This test employed the language that the teacher used when teaching parts. "What is this?" (shovel) "A shovel has a ... (tester points to handle) and a shovel has a ... (tester points to scoop)." The test for parts was administered after the teacher indicated that she had completed the parts unit with her group. The results of the test were then fed back to the teacher. She was instructed to bring every child in the group to perfect performance. After the teacher

indicated that she had worked with the children who failed particular items, the entire test was re-administered, not merely the items that the children had missed. The teacher was again told about the performance of her children and was again instructed to bring them to criterion. After the second test, only the items missed on the last test were re-administered.

The criterion tests (one on prepositions and one on parts) are explained and the check lists included in Appendix B. Because of the length of these tests, they were extremely time-consuming and sometimes difficult to schedule in the children's relatively short school day. The tests, however, provided a great deal of qualitatively valuable information.

1. The tests provided a basis for evaluating the performance of different teachers. As noted above, the investigators had an expectation of the relative time required for the different groups of children to reach the desired criterion of performance on any unit. When the performance of the children was not consistent with the expectation (when, for example, the second or third group beat the first group in reaching a particular criterion of performance), the discrepancy was interpreted as a function of the relative effectiveness of the two teachers in question. The interpretation was that if one teacher's group consistently lagged behind that of another whom they should beat, this teacher was not teaching effectively. This conclusion could be tested by "switching" teachers from one group to another (letting the teacher of the top group work with the second group for a while) and noting whether or not the performance discrepancy continued. If not, the initial discrepancy was a function of poor teaching skills. The testing allowed the investigators to study "good teaching" in some detail.

2. The study allowed for inferences about the "hidden curriculum" in the middle-class home and the mysterious ways that children perform on sampling tests, such as the Stanford-Binet. It allowed the investigators to see what the children had been taught. The study of time and amount of teaching required to teach the set of skills under investigation allowed for at least some qualitative generalization about what would be required to teach a more elaborate set of skills, such as those sampled on a Binet IQ test. The assumption is that middle-class children have been taught a greater range of skills. The study of what it takes to teach these skills gives at least a rough idea of how much teaching goes on in the middle-class home -- how many hours and the variety of concepts. Since the format of instruction is quite different in the middle-class home than it is in the classroom (individual, informal versus group, formal instruction) there is no basis for extrapolation, merely a suggestion about the intensity of the education in the middle-class home.

3. The study provided a model for more effective appraisals of curricula. Unlike most achievement tests, the tests designed

for the study implied very specific instruction for the child that failed. Often the teacher who is given the results of an achievement test cannot see precisely which skills have not been taught to the children. The items are often complex and contain a number of possible causes of failure. Sometimes, the items included in the test are not specific items that have been taught in the course. Often the teacher does not view the test with the idea that if the children fail items on the test, they fail because they haven't been taught the skills necessary to master the item. (Teachers sometimes interpret test performance in terms of the mental adequacy of the children. "He's just a slow learner.")

The tests used for the present study involved simple items, presented according to the language conventions of the program and embodying the content words taught in the program. Each failed item, therefore, reflected a weakness in the program (in the way the concept presentation was designed, or in the way the presentation was executed by the teacher, or in both.) In any case, a teaching remedy was implied. The child had not been taught sufficiently well. The remedy was to teach him.

4. The study provided further inference about the relative effectiveness of the program. If certain items were failed rather consistently across the four groups of children, the conclusion was drawn that the items in question were not taught well. For example, if the children had trouble naming the parts of a sailboat, the investigators concluded that the method of instruction used to teach the parts of the sailboat left something to be desired. The qualitative nature of the children's responses often provided further information about how the teaching presentation was weak. The fault in the program may have been one of sequencing, which would mean that the objects taught immediately before the sailboat was taught may have been similar to the sailboat and may have induced some confusion. (This type of confusion would be reflected by the children's performance on the sailboat and on the objects that preceded it in the teaching sequence). The confusion may have been one of time. (Regardless of where the sailboat appeared in the teaching sequence, it perhaps required relatively more time to be taught than other four-part objects). The confusion may have been one of generalization. (For example, the children may have learned in connection with such objects as wagons, beavers, etc., that the main part of the object is called the body. The body of the sailboat is not called a body, however, but a hull.)

5. The study provided specific clues about how to change troublesome parts of the program. For example, if children consistently called the hull of a sailboat "body," a variation of the teaching demonstration for sailboat would be implied. The teacher would anticipate the mistake and alert the children to the mistake that they might make. "Look at this part of the sailboat. You know what some children call it? The body. That's silly, isn't it. We know what it is. It's the hull. Oh, you

have to be smart to know that. What part of the sailboat is this?" Other types of changes were prompted by (1) consistent failure of an item, and (2) the nature of the problems children had on the tests.

Qualitative analysis was not handled in a formal manner simply because the techniques used were basically exploratory. It was felt that adherence to a rigid procedure might force the investigators to ignore possibly useful qualitative data. As a result of the somewhat haphazard attempts to use the children's test performance results as the basis for drawing inferences about weaknesses in teacher presentation and in the structure of the program, the investigators were left with many interesting leads but little in the way of hard data about the relative effectiveness of the remedies that were implemented. The leads were for the most part qualitative since it was not practical under the circumstances to control for the different variables that might influence effectiveness of program revision.

## RESULTS AND DISCUSSION

Three types of results emanated from the study. The first has to do with the changes in the program. The next is some kind of documentation that the changes were for the better, supported by improved achievement and IQ-test scores. The third type of results has to do with the procedures developed for "trouble shooting" and revising curricula. Because the results vary from objective test scores to impressionistic observations, reporting of results and discussion of them are combined.

### Changes in the Program and Effects of Changes:

Changes were made in all three curricula areas -- arithmetic, reading, and language. Most of the changes were extremely specific; however, some of them proved to be rather extensive.

**Arithmetic:** The original conception of the arithmetic program was to relate the statements of arithmetic to counting operations and to give the children an operational understanding of each "symbol" used in the statements of arithmetic.

The problem with the original program was that it was dangerous for the slower performing children. The slower performer did not know how to count. He did not know the "names" of the numerals. And he did not know what the statements of arithmetic purported to tell him about the world. In brief, the entire game of arithmetic was new to him. He learned the word three in connection with counting exercises. At the same time, he learned three in association with a symbol. And he was exposed to a statement, "This number is three."

The three in the counting context, in the symbol identification context, and in the statement context often resulted in total confusion. He knew something about identifying objects, but his object called "three" was something that was quite different from the other objects to which he had been exposed. One didn't simply identify the object.

The slower-performing children had similar difficulties with the statements of arithmetic, such as, "One plus zero equals one." They did not adequately learn the meaning of this statement. Their great failure was to learn that one plus zero is the same as one. We discovered the faster performing children also had a great deal of difficulty with this concept, and that we had assumed that the concept is far easier for children to learn than it actually is.

The major changes that resulted from our tryouts of the arithmetic program were:

1. The symbol identification tasks were changed. Children were not required to give full statements in response to numerals. "What's this?...A three." The rate at which symbols were introduced was also slowed, so that the children would acquire a solid base in counting before they were exposed extensively to symbols.

2. The emphasis on production of arithmetic statements (one plus zero equals one) was reduced in favor of increased emphasis on demonstrations and practice with the operations (assembling one, adding no more, and noting the total). Emphasis on statement repetition and production was delayed until the children had had considerable experience with the operations.

3. Emphasis was placed on the meaning of "equal." The children were exposed to a series of graded exercises, beginning with the rule, "As many as you have on one side of the equal sign, you have to have on the other side." Children were initially given such exercises as, "What equals seven?...What's the same as eight? What equals eight?...If you have eight on one side of the equal sign, how many do you have to have on the other side?" The children progressed to more complicated statements, always with the emphasis on the equal sign. For example, the problem  $4 + 2 = \square$  was solved by figuring out (by following the operation specified) how many are on the left of the equal sign. "So what equals six?... And how many do you have to have on the other side of the equal sign?...And what numeral goes in the box?..."

4. The entire arithmetic program was "slowed." A firm grounding in the meaning of "equal" was traded for possible acceleration of the faster performing children into such areas as fractions, rules of converting equations, etc. What this means is that the higher performing children were not able to progress

as far as they perhaps would have been able to in the original program. It was felt, however, that they would have a more solid foundation in their understanding of arithmetic statements and therefore would be able to progress more smoothly in the less structured school situation.

The effects of the changes in the arithmetic program are vaguely reflected in the performance of the children. The arithmetic achievement scores for the first and second classes (Groups I and II) of Bereiter-Engelmann children (after two years of instruction) is given in Table 1. The mean scores are nearly identical. Note, however, that the lower performing children in the 1967 graduating class scored substantially higher than the lower performers in the 1966 graduating class.

Reading: The reading program has undergone more change than any of the others. The original program was linguistically oriented. Children were taught that words had beginnings and endings. The word beginnings consisted of single sounds, such as, s, m, b, etc. The endings were ed, ad, am, etc. Different beginnings were programmed with different endings. The children were taught both the letter names and the sounds the letters made in the words that were formed by coupling a beginning and an ending.

The program proved to be only modestly successful. The mean reading achievement score of the children who were taught according to this program was .99, based on the Wide-Range Achievement Test, first edition. A number of the children failed to learn to read. (See Table 2).

In 1965, the ITA program was substituted for the original. It was obvious that the ITA had an advantage; however, it did not succeed well with the low performing children, primarily because these children had a great deal of difficulty learning to combine sounds. They could learn to sound out a word, such as d-ooo-g, but they couldn't blend the sounds to form the word dog.

In 1966, a new program was introduced for the lower performing children. This program concentrated on the skills that are involved in sequencing sounds and blending them to form a word. Children were given verbal exercises in which they were given words verbally, such as, mmmmaaaaannn. They were then told to "say it fast." The children were also taught to say words slowly. Words were presented at a normal speaking rate (man). The children were then to, "say it slow." Finally, a convention for blending was introduced. The first letters the children were taught were continuous sound letters--mm, a, u, s, etc. These were identified by the sound they make, not by the name. When the children began to read simple words formed by these letters, they were taught to hold each sound until they produced the next. Instead of sounding



Table 1

Arithmetic Achievement of Groups I, II, and III  
 After Two Years of Instruction  
 (Wide Range Achievement Test\*)

Subject	Grade Level
<b>Group I</b>	
1	2.5
2	1.8
3	1.4
4	2.0
5	3.6
6	2.9
7	3.1
8	1.8
9	2.3
10	3.3
11	3.6
12	3.1
13	2.5
<b>Group I Mean</b>	<b>2.61</b>
<b>Group II</b>	
1	2.2
2	2.3
3	3.3
4	3.1
5	2.9

6	2.5
7	3.3
8	1.4
9	2.2
10	2.7
11	2.2
12	2.0
<hr/>	
Group II Mean	2.51
<hr/>	
Group III	
1	2.4
2	1.6
3	.9
4	.4
5	2.2
6	1.9
7	.9
8	2.2
9	1.6
10	2.1
11	2.2
12	1.4
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Group III Mean	1.65
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\*Changes occurring in the Wide Range Achievement Test prior to its use to test Group III make these scores not strictly comparable to those of Groups I and II.

Table 2

Reading Achievement of Groups I, II, and III  
After One and Two Years of Instruction  
(Wide Range Achievement Test\*)

Subject	Grade Level End of First Year	Grade Level End of Second Year
<b>Group I</b>		
1	1.0	1.3
2	1.0	.9
3	1.0	1.0
4	1.1	1.1
5	1.4	1.7
6	.9	1.3
7	1.3	2.3
8	.5	1.3
9	1.1	1.3
10	1.1	1.9
11	1.2	2.1
12	1.1	1.8
13	1.0	1.3
<hr/>		
<b>Group I Mean</b>	.99	1.48
<hr/>		
<b>Group II</b>		
1	1.1	2.7
2	1.1	1.6
3	1.2	3.1
4	1.3	3.7
5	1.2	2.7

6	1.2	3.6
7	1.2	3.1
8	1.2	1.6
9	1.3	2.0
10	1.2	3.1
11	1.2	1.7
12	1.2	2.3
<hr/>		
Group II Mean	1.20	2.60
<hr/>		
Group III		
1	1.4	1.4
2	1.5	1.6
3	1.6	1.6
4	.7	.5
5	1.8	2.3
6	1.3	2.3
7	1.2	.8
8	1.3	2.8
9	1.2	1.3
10	1.2	1.6
11	1.2	1.3
12	1.4	1.5
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Group III Mean	1.32	1.58
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\*Changes occurring in the Wide Range Achievement Test prior to its use to test Group III make these scores not strictly comparable to those of Groups I and II.

out the word man as mm--aa--nn, they were taught to sound it out, mmmmaaannn. They were then told to "say it fast."

During the school year, 1966-67, the new reading program was introduced to the slower-performing children only. During the school year of 1967-68, it became the standard program for all of the children. The program enabled the investigators to teach reading to the slower-performing children for the first time.

The lowest reading achievement score in the 1967 graduating class (Group II) was grade level 1.6, compared with grade level .9 for the 1966 graduates (Group I). The difference in reading instruction seems to be reflected both in the mean reading scores and in the range of scores, with the 1967 class having the advantage in both cases.

Because a new edition of the Wide-Range Achievement Test was used to evaluate performance of the 1968 class (Group III), the scores are not comparable. However, the achievement scores for this class are also included in Table 2. Although the 1968 scores are lower than those of 1967, the absolute performances of the children in these groups are quite similar (and considerably better than that of the 1966 class).

Language: The goal of the original language program was to teach children the language of instruction, that is, the concepts and constructions that would be used in a range of future teaching demonstrations. The original program called for a tight sequence of activities, beginning with work on the "identity" statement, and then a variety of "second-order statements." The identity statement is used to identify objects or actions, "This is \_\_\_\_\_." The second-order statement is designed to tell something about the object (or group) that has been identified, "This \_\_\_\_\_ is \_\_\_\_\_."

The concepts taught using the second-order statement were polars (opposites), class concepts, colors, and prepositions. After the children had mastered the first- and second-order concepts, they were introduced to if-then constructions, statements involving and or, etc. Four primary changes have occurred in the language program.

1. The range of skills has been expanded.
2. Better demonstrations for teaching language concepts have been introduced.
3. As in the arithmetic, the emphasis moved from the repetition and production of statements to the operations that underlie statements.

4. The sequence of skills was altered to give the lower-performing children a more errorless introduction to the second-order concepts.

The first class of children was introduced to color relatively early in instruction. The introduction of color was delayed for subsequent classes. The rationale behind the delay was that the slower-performing disadvantaged child does not have a clear idea that objects can be instances of various concepts. The slower performer may have the notion that an object is an instance of a single concept (conveyed by the name of the object), but he may not understand that after an object has been labelled, a number of attributes (such as color, shape, position, etc.) can be noted. The first introduction to these other attributes should be as obvious as possible. The notion of color is not particularly obvious, because of demonstration limitations associated with the concept. It is not possible to "remove" the color from an object and show the child a not-instance of a particular color. The introduction of color concepts was therefore delayed until the child had learned a number of other "attributes" which were more easily demonstrated than color. Parts, polars, and prepositions were used to provide the introduction to attributes. Only after these had been mastered were color concepts presented.

The demonstrations associated with the presentation of concepts were improved on a trial-and-error basis. If a particular presentation proved to be difficult for the slower-performing children (as noted by the length of time required for them to master the concept and by the number of persistent errors they made), the format of the presentation was changed. In many cases, the original presentation was broken into a series of tasks that would lead to terminal performance in a more errorless fashion.

The effectiveness of a language program is reflected in the IQ achievement of children. If the range of language skills that is taught includes a wide variety of applications and a relatively extensive vocabulary, the child will have been taught more language concepts than children his age are normally taught. This increased language-skill repertoire should be reflected on an IQ test.

The IQ performance of the 1966, 67, and 68 classes (Groups I, II, and III), is summarized in Table 3. The improvement in the language program seems to be reflected in the increased IQ scores. Note, however, that these scores are relatively independent of the achievement scores in other areas. Since the reading program was improved at the same time the language program was improved, there is some ambiguity about the relationship between reading performance and IQ level; however, the arithmetic performance and the spelling performance of the children in the three Bereiter-Engelmann classes seems to be uncorrelated with IQ performance. The arithmetic achievement scores have not changed substantially over the three

Table 3

Stanford - Binet IQ Scores  
for Groups I, II, and III

Subjects	At Time of Entry	After First Year	After Second Year
<b>Group I</b>			
1	121	101	126
2	94	96	100
3	95	109	117
4	98	101	100
5	92	100	107
6	105	110	108
7	96	100	99
8	95	103	100
9	91	110	103
10	105	116	114
11	99	114	114
12	88	98	102
13	90	96	99
<b>Group I Mean</b>	<b>97.21</b>	<b>104.07</b>	<b>106.93</b>
<b>Group II</b>			
1	92	113	123
2	93	94	103
3	105	112	121
4	89	101	131
5	99	116	119

6	86	105	112
7	119	130	139
8	90	107	112
9	84	100	108
10	109	125	138
11	99	114	129
12	101	123	118
<hr/>			
Group II Mean	97.17	111.67	121.08
<hr/>			
Group III			
1	101	123	94
2	83	96	94
3	96	100	108
4	84	94	102
5	78	103	112
6	93	96	118
7	81	102	88
8	111	121	121
9	90	97	105
10	111	113	117
11	85	95	107
12	95	109	122
<hr/>			
Group III Mean	92.33	104.08	107.33
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years under consideration. Yet, as Table 3 indicates, the IQ scores have changed dramatically.

Perhaps the most significant aspect of the IQ performance of the three classes is the increased number of children who achieved substantially above 100 in IQ performance. The investigators interpret this tendency as an indication that the language program allowed the faster-performing children to learn language concepts at a substantially above-normal rate. The same rate was not possible with the slower-performing children, since a great deal of time had to be devoted to the programming of basic concepts.

#### Observations About "Trouble Shooting" for Program Improvement

The observations divide into two categories: observations about the curricula-revision process, and observations about the dynamics of effective teaching techniques.

Observations about the curricula-revision process: The following observations were somewhat facilitated by the procedure of testing each child individually on the skills that were supposed to be taught in the program and by the procedure of then revising the program where it appeared that error rate was high or time required to reach criterion was generally excessive. Since adequate controls were not present during the investigation, these observations will be discussed qualitatively.

1. Different formats for teaching a particular concept may result in substantially different numbers of errors produced by the children and the time required for the children to reach criterion performance. This observation may seem patently obvious, but it is quite important. The difference between a carefully constructed program designed to teach a particular skill and one that is not as carefully sequenced is reflected both in the amount of time it takes for children to learn a particular skill and the degree to which the skill is retained over a two-month period. The better program not only teaches the skill more rapidly. It also results in better retention.

In several cases, skills were re-programmed in such a way that the lower performing children (group 4) achieved criterion in almost as little time as higher performing children (group 1).

Programs that have the potential for reduced error production are particularly important when the first instance of a concept is presented. All part-whole tasks are the same in that all have the same conceptual structure. In all, the child must learn that the object is the sum of the parts and that if all of the parts are in place, the whole object is complete. If the whole object is

not complete, some of the parts are missing. The name of the object is not the same as the name of a part of the object. If one is asked, "What is this?" and is presented with an object, the answer is the name of the object. If one is asked to "Tell me the parts a \_\_\_\_\_ has," a different type of response is required. Telling the name of the object is not called for. The respondent must now examine the object not as a whole, but as an aggregate of parts.

The structure above applies to all part-whole relationships. A child must learn this general structure. However, he must learn it in order to handle the first part-whole task he encounters. The child then applies what he learns to all other part-whole tasks. He does not have to re-learn the structure of the concept of part-whole relationships. Conversely, there is no way that he can consistently learn to handle the tasks that are presented in connection with the first part-whole object without learning the structure. What this means, translated into performance expectations, is that the child who has not learned part-whole relationships in connection with an object will make a greater number of mistakes on the first object presented than he will on other objects. If the objects that are presented after the first are similar in degree of difficulty (number of parts, length of name of part, familiarity with whole object), we would expect a typical learning curve in which the child made progressively fewer mistakes on each new object until he reached a "plateau" in speed and number of errors. His performance would then remain relatively constant.

From the standpoint of curriculum development, it is important to flatten the curve. The reason is that when a child makes a high number of mistakes on the first "instance" of a concept, retention will be relatively poor for that instance. Not only will the subject require many more trials to reach criterion, but (1) the subject will not retain the skill as well as a subject who has the same number of trials in which he made fewer errors, (2) the subject will not retain the skill as well as a subject who made fewer errors but who made the same number of correct responses, (3) the subject will not retain the skill as well as subject who made fewer errors and fewer correct responses.

In brief, one of the major differences in material that is well programmed and material that is not so well programmed shows up most dramatically in the rate at which children master the first instances of a new skill. The more poorly sequenced program does not have the potential for acceleration because it takes longer to bring children to an initial criterion. If the program introduces new instances before the children master the first instance (or first set of instances), then the performance of the children may be severely retarded (compared to the program in which the skills are sequenced to achieve fewer initial errors). A good teaching demonstration is needed for the first instance if the

performance of the children is to be accelerated. The advantage of the well programmed sequence is not as evident after the children in both groups have mastered the initial set of instances. The well sequenced program, however, will achieve both faster learning of the entire set (primarily because of the saving on the first several instances) and it will account for better retention of the entire set (primarily because of the better retention on the first instances taught).

The difference in performance on well programmed sequences and relatively poorly programmed sequences is most noticeable among the lower performing children. The learning curve for the higher performing children on most of the tasks presented in the language program is flatter, probably because these children have already been taught some of the components of the criterion tasks. The lower performing children must be taught more, and the importance of a good demonstration is therefore increasingly important.

2. The minimum time in which new skills can be taught to four-year-olds (given that the skill is not worked on for more than five minutes a day) is three days for the higher performing children and about twice that time for the lower performing children. This observation is based on the performance of children over a broad range of skills.<sup>1</sup> For some skill acquisition, the

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<sup>1</sup>It is interesting to note how far some existing instructional programs fall short of this minimum time per unit of learning. Some reading programs, for example, presume to teach the children the alphabet in the matter of a few minutes. Science programs expect children to learn a principle from one experimental demonstration of that principle. Language programs and English programs assume that children learn about the parts of speech and about contractions, for example, from one lecture. If the children are to retain what they have been taught, they will probably require at least three days of five-minute-a-day instruction on the skill in question. (It may be that older children who are more familiar with the programming game will not require this much time; however, younger children, even very bright children, do.) The greatest mistake a program can make is to present a compelling demonstration, provide for the children to make responses, and then expect the children to have learned the skill well enough to be able to retain what they have learned or to use it in other situations. The children will most certainly fail. The simplest two-part object (such as a shovel) requires instruction over three days if the knowledge is to be retained. Surprisingly enough, the three-day minimum holds reasonably well across various tasks (prepositions, parts, letter sounds, sequencing skills, statement repetition skills, etc.)

difference between the high and low performing children is even greater. On symbol recognition, it is not uncommon for naive, high performing children to learn new symbols at the rate of one every two days, and for lower performing children to require about seven days for a symbol, after the first two symbols have been introduced. On other tasks, the differential is not so great.

3. According to the concept analysis procedures used in the program (Engelmann, Concept and Problem Solving, 1969), a teaching presentation must be consistent with one and only interpretation. If it is possible to derive two interpretations from the presentations of examples and the language the teacher uses during the presentation, some children will learn the incorrect interpretation. Although no formal attempt was made to design tasks that were consistent with more than one interpretation by virtue of either language ambiguity or ambiguity of the examples selected, tasks that presented problems were scrutinized. In every case, a reasonable source of confusion was found to be implied by the presentation. Perhaps the words employed were similar to words used to describe a superficially similar concept. Perhaps the examples were poorly selected. Perhaps the teacher did not rule out all of the irrelevant cues (always presenting the letter c after the letter b, for example), etc.

The intensive study of rough spots in the program gave the investigators greater conviction that if tasks and teaching demonstrations could be constructed analytically sound, they would work. The children would learn relatively quickly and errorlessly.

4. The investigation confirmed that a successful program is one that (a) quickly demonstrates what the concept is and what it is not, (b) uses a carefully selected set of examples during the initial demonstration and then quickly expands the set, introducing a wide variety of examples, to firm the generalization, (c) uses "formats" or a similar form for tasks that are similar, so that the teacher's language is controlled and so that the children learn what general types of responses are required of them not only for the present tasks but for all tasks that take the same "format", (d) uses simplified language and places emphasis on the demonstration through examples rather than on verbal explanations from the teacher that are designed to appeal to the children's logic, and (e) requires a great number of responses from the children. Responses are not a substitute for adequate teaching demonstrations. Responses, however, help the children get used to the new language introduced and help them become comfortable with the new concept. Good programs are also designed so that they do not "spiral," that is, they do not "sort of" teach a concept the first time the concept is introduced and then, at prescribed intervals, "sort of" teach a little more about the concept. Such programs are designed to create confusion, especially among the lower-performing children. The evaluation of the present curricula would indicate that a good program teaches the concept as it will be used during the

initial teaching demonstrations (using enough examples of the concept to assure generalization). The concept is then incorporated in more complex tasks. Unless the concepts are used, normal forgetting will occur. Such forgetting may be prevented by continually review of the concepts (which is sometimes necessary if the skills are not neatly structured). It is far more efficient, however, to teach the concept and then require the children to perform on tasks in which they must use the concept.

Observations about the Role of Teacher Behavior  
in Inducing Most Rapid Learning

The teachers in our sample differed considerably in their efficiency in teaching children, even when adjustments were made for the expected rate of performance of the different groups. Switching teachers from group to group verified the differences. These differences were only slightly noticeable on "short" tasks, that is, tasks that involved no more than a few examples presented by the teacher and a simple statement response from the children, a yes-no response, or a pointing response. On more complicated tasks (tasks requiring a more elaborate demonstration or a series of responses), the difference was more apparent. The investigators observed that this "difference" is actually the produce of very specific behaviors. These behaviors could be taught to teachers who did not initially have them, resulting in improved performance of the children. These behaviors are listed below. Note that these are not all of the behaviors that make for good teaching. The investigators felt that all of the teachers in the investigation would be rated at least "good" by outside observers. These are the behaviors that make a difference on tasks that typically present problems to some or most of the children. The investigation focused on these tasks and attention was paid to the behaviors that lead one teacher into trouble and the behaviors of another teacher that buttress against this trouble.

1. The "good teacher" was more pessimistic about the preparation of her children for a test. She was also more accurate in predicting how well they would do on the test. The good teacher apparently tended to overteach. She hesitated to move on to another task until all of the children in her group were performing adequately. The teacher who was not as good did not get as much feedback from the children. She did not seem to have the burning desire to teach every child. She let the children get by with performances that would not be acceptable to the good teacher. In one sense, the good teachers reminded one of Helen Keller's teacher, as she was portrayed in The Miracle Worker. They felt that the children could perform and should perform if the teacher knew how to reach them. The teacher who was not so good seemed to have a more mechanical view of the teaching process. It did not seem to bother her if the children did not perform well. This is not to say that the good teachers showed their feelings and concern to the children. Quite the contrary. However, discussions with them revealed their frustrations and desires.

All teachers failed to judge completely accurately when they had "taught" a concept to all of the children, as judged by the performance of the children. On almost every test, one of the children who was supposed to be taught a set of items failed one or more items. The good teachers had fewer failures, however.

2. All teachers, good and not quite so good, tended to create a set for responses on particular kinds of tasks, especially among the lower-performing children. The tester could present the item and a child might fail it. The teacher could present the same item, giving no prompts, and the child might respond appropriately. It was difficult to determine whether good teachers created a stronger "set" than the other teachers. The writer tends to think that they do. They are such strong sources of information and direction that the children rely on them. If this is the case, a good teacher would have to change the instructional set after the children had mastered a concept, perhaps presenting in a low-key manner, giving the children worksheets, etc.

3. The good teacher tended to require 100% performance from the children. When a good teacher pointed to a picture and said, "What's this?" she expected all children to respond. If they didn't respond, she would perhaps smile and say, "I didn't hear you. What's this?" By now all of the children were responding. She would smile, cock her head, and say, "I didn't hear you." Now the children let out with a veritable roar. The teacher would acknowledge, "Now I heard you," and proceed with the next task. It was quite noticeable that the children performed well on the next task, with virtually 100% of them responding. Basically her approach was to stop and introduce some kind of gimmick if the children -- all of them -- were not responding or paying attention. She did not bludgeon the children. She "conned" them. It seemed obvious that they understood her rules. She would not go on until they performed. It seemed that they liked performing, because when they performed well she acted pleased.

A similar pattern was noted in the manner in which she would reinforce. She would tend to present a series of quick tasks together, without interrupting herself at the end of each task, except perhaps to say, "Here's another one." Occasionally, she would urge the children, "Come on, this is tough." Throughout the series of tasks, she would not reinforce the children. Then, at the end of the series, she would stop, smile and perhaps say something like, "Wow, you guys are really smart. How did you do that?"

The pattern of presentation for the not-so-good teacher was quite different. She tended not to require 100% performance from the children. As a result, it seemed that she often reinforced inattentive behavior. If all of the children were not attending, she would proceed with the task. The children in the group might find it more difficult to work on the task than to look around the

room. The looking around the room is relatively reinforcing in this situation, and the teacher is reinforcing such behavior. It was noted that the off-task behavior problems of this teacher tended to escalate (at least during the first two months of instruction). Generally, the children tend to settle down after this period, but they don't respond as well in the instructional setting as the children who work with the good teacher.

The relatively not-so-good teacher tended to interrupt her performance. She tended to reinforce after every task. (Such reinforcement was often indiscriminate, including even those children who were not attending or responding as well as the good teacher would have required). The fact that the not-so-good teacher tended to interrupt herself seemed to handicap her when she wanted to produce a quick series of responses from the children. She had trouble managing this kind of task, because there was normally a substantial time lag between the presentation of tasks.

4. The good teacher seemed to use very crisp signals, and she tended to treat her signals as if they had very precise meanings. Perhaps the best way to illustrate the difference is to compare the teaching of two teachers on the task, "say-it-fast," in which a word is presented to the children in slow motion, and the teacher then says, "say it fast."

The not-so-good teacher presented her initial tasks this way. "Listen...Motor (pause) cycle, say it fast." Some of the children responded, "motor (pause) cycle." The teacher said to the group, "Good. Motor-cycle." Several months later, the children in this group were having trouble with "say-it-fast" tasks.

The good teacher presented her initial tasks this way. "Listen... Motor (pause) cycle (pause, pause)..." During the pause some children started to say, "motorcycle." The teacher held out her hand and returned to the beginning of the task. "Motor (pause) cycle (pause, pause)..." Again, the children interrupted her. Quietly she said, "You've got to wait." Again, she returned to the beginning of the task. "This is tough. See who can wait. Motor (pause) cycle (pause, pause) say it fast." Most of the children responded by saying the word fast. Others, however, said, "motor (pause) cycle." The teacher smiled at them and said, "say it fast." Again, the children said, "Motor (pause) cycle." And again, the teacher said, "say it fast." Before the children could respond again, the teacher said, "I can do it. Watch me. Motor (pause) cycle (pause) say it fast...Motorcycle." With a smile, she continued. "I did it. I said it fast. Your turn. Listen. "Motor (pause - cycle (pause, pause, pause) say it fast." The children responded, "motorcycle." The teacher almost yelled, "That's saying it fast. Here's another word. Listen..." Within two weeks, this teacher had all of the children in her group performing consistently on "say-it-fast" tasks, including very difficult tasks.

The example above illustrates the teacher's passion for perfect performance from the children. It also illustrates her crisp use of signals, and her treatment of signals as just that -- signals with a very precise meaning. Note that the teacher set the task up so that there was a pause before she presented the signal, "say it fast." This meant that the children had to wait for the signal. They could not perform in the task by chance or by memorizing the cadence. The pause before the presentation of the signal varied in length. The children were therefore "hooked" on the signal. The teacher made sure that they were hooked. She also made sure that the children understood the meaning of the signal. After the children made a mistake, she repeated the signal, in much the same way one would repeat the signal, "Get out of the street," or "pull the cord." Before providing the correction, she demonstrated to the children that they were to produce a very specific response to this signal. She did not "shape" the children. She did not accent "sort of" responses. She accepted only true "say-it-fast" responses. When the children produced these, she reinforced them vigorously.

5. The final major difference between the good teacher and the not-so-good teacher was that the good teacher paced her presentation so that she presented examples quickly. When the children were required to produce complex responses, she did not rush them. However, when she was introducing a new concept, she structured the task so that the children could initially respond using only yes-no responses. She then presented examples as quickly as possible. For example, her introduction of the concept "over" took only a few minutes, but within the few minutes, she presented over fifty examples.

She started out with an eraser. "What's this?...Watch the eraser. Is the eraser over?..." She moved the eraser over the table. "Yes. Is it over?" She moved the eraser higher over the table. "Yes. Is it over?" She moved it over another part of the table. "Is it over?" She moved it on the table. "No. Is it over? No." Keeping it on the table, she slid it to another part of the table. "Is it over?..." Back to the middle of the table. "Is it over?..." Above the table. "Is it over?..." Higher. "Is it over?" On the table. "Is it over?..." And so forth.

Note that she answered the first few questions. After these, she never led the children, never prompted them -- simply asked the questions and waited for their response. They did not make a mistake throughout her presentation, either on the group work or when she called on them individually.

The not-so-good teacher tended not to pace the instances as well. During the time that the good teacher presented over fifty examples, the not-as-good teacher presented only four. She required five statements from the children. She kept the examples



more static. The good teacher almost provided children with a "picture" of what "over" meant. The not-so-good teacher did not paint so good a picture, primarily because she did not pace her presentation so that the children were exposed to as many examples of the concept.

#### SUMMARY

The present investigation dealt with "trouble-shooting" techniques for improving the Bereiter-Engelmann curricula. The investigation was mostly informal. The procedure was to identify curricula and teaching problems as they arose and to work out possible remedies.

The results of the investigation were qualitative in terms of the techniques for effective program construction that derived from the investigation. That these changes were at least partially successful was reflected in the improved performance of the children on achievement and IQ tests. During part of the grant period, the language curriculum was studied in great detail. This study was conducted in connection with the project dealing with the achievement component of the Stanford-Binet (See Table 3). During this part of the investigation, a more detailed check was kept on the teachers' behaviors and on the performance of the children, as measured by check lists of all of the skills taught in the program. Since the teachers were responsible for bringing every child to criterion performance on as many skills as possible, the study afforded the investigators an opportunity to note the effects of curricula changes and teacher-behavior variables on the performance of the children. Although these variables were not quantified, they were observed. The investigators felt that many interesting leads derived from qualitative studies.

From the studies, the investigators distilled procedures for effective program revisions and noted teacher behavior that tends to lead to better achievement performance of the children. The investigators feel that more carefully controlled experiments are needed to give more accurate data on the influence of the various variables noted in the present investigation. They feel, further, that such experimentation would be more fruitful, since it would carry implications both for effective skill programming and for teacher training.

## The Dual Kindergarten

Ernest D. Washington  
and Jean Osborn

### INTRODUCTION

The Dual Kindergarten was a pilot study for a public school program. Children who exhibited special educational needs would spend one-half day in a traditional kindergarten and one-half day in a special class which would be directed toward giving them extra preparation needed for successful achievement in the first grade.

The pilot study was undertaken with the cooperation of Unit 4 School District, Champaign, Illinois which at the time was studying an integration plan for its community. The integration plan included busing children from economically poor neighborhoods into schools throughout the community. The dual kindergarten classes, which would give selected children a full day of kindergarten, had two objectives as a public school program.

1. The integration of socio-economic and ethnic groups in the public schools.
2. Equalization of the readiness of children in all groups for participation in the educational process which would begin in the first grade.

The Unit 4 School District was particularly interested in the Dual Kindergarten program as a means of reaching the six to twelve percent of the district's children (depending upon the subject matter area and the grade level) who were more than one grade level below their peers on standardized achievement tests. Even with a comprehensive elementary education program which met the needs of most of the children in the community, 80 to 100 children entered the Champaign Schools each year who began achieving below grade level and continued that pattern throughout their school experiences (Champaign Community Unit School District No. 4, 1968).

The two-class all-day kindergarten program manifested several advantages over a single-class all-day program: by spending one-half-day in a community kindergarten the children selected for the dual-kindergarten program would establish social relations with the diverse kinds of children who would be their classmates in years to come. In these classes they would take part in the learning

experiences and readiness activities commonly associated with kindergarten. In the other part of the day, the children would be assigned to special classes according to their needs. Which children would be eligible for the classes, and what type of classes they would attend would be determined by diagnostic testing and teacher evaluation of the performance of the children in their regular kindergarten classes. It was felt that most children who would be eligible for the program would need classes which emphasized language, concept development, and pre-academic and pre-reading skills, but that other classes that focused on social adjustment and behavior modification or on the remediation of some special handicap would also be established as a part of the program.

The second half-day program would be made available for all children in the community, not just the children from the neighborhoods that were being bused into new schools. The classes would be held in a regular school building. Children who did not demonstrate the need for special classes would continue to attend kindergarten for half-day sessions only.

#### OBJECTIVES

The University of Illinois pilot study was for a class in the development of language, reading and arithmetic skills.

The specific goals of the pilot study were:

1. To investigate the feasibility of combining a two-year compensatory education program into a one-year program.
2. To compare the gains made in academic and intellectual growth of two groups of children, one group attending a half-day public school kindergarten session, the other attending a half-day public school kindergarten session plus a special class at the University of Illinois.

Work that had been done the previous three years by Bereiter and Engelmann (1966) at the University of Illinois indicated that a highly organized and structured direct teaching program in which groups of children entered at age four and continued in for two years resulted in large gains in intellectual capacity as measured by the Stanford-Binet and in first and second grade scores in reading and arithmetic on standardized achievement tests. The classes, which were held daily for two and a half hours, consisted of carefully programmed instructional units in reading, arithmetic and language which were carried on in small groups, and in larger group activities which involved related and reinforcing activities in art, music, games and seatwork projects.

The feasibility of compressing this two-year program into one year was to be examined as a part of the pilot study.

To measure the effect on educationally disadvantaged children of a special class which emphasized academic skills, twenty children were selected from summer Head Start classes. All twenty attended kindergarten in the public school every morning, ten of these children were placed in the special class at the University which met every afternoon.

The following were the objectives for each of the three subject areas:

A. Language: The language course was designed to teach each child, directly and systematically, the language of the public school. The following description of the language course comprises the minimum objectives for all of the children in the language program. At the end of the year, each child was to be able to handle both the concepts and the language of the following:

1. Statement of what an object is:

a. First order statements

Identification statements.	This is a cup.
Not statements.	This is not a cup.
Plural statements.	These are cups.

b. Second order statements

Classification statements.	This dish is a cup.
Shape statements.	This cup is round.
Color statements.	This cup is red.
Pattern statements.	This cup is striped.
Polar statements.	This cup is big.
	This cup is little.
	This cup is made of plastic.

c. Instructional statements

Prepositions.	This cup is on the table.
Conjunctions.	The cup and the spoon are on the table.
Other function words.	All the cups are white.
only, one	Some of the cups are pink.

Same-different.

These cups are the same because they are all made of plastic.  
These cups are different because some are white and some are pink.

2. Statements of what an object does:

Use of does and can.

Does a cup hold milk?

Can a cup hold milk?

Use of verb tenses.

Is there milk in the cup?

Was there milk in the cup?

Use of pronouns.

Is he drinking from the cup?

Is it in his hand?

Situations of function and use.

Do we drink from a cup?

Do we wear a cup?

3. Statements of what an object has:

Part-whole relationships.

A cup has a handle and body.

The preceding is the format by which a larger number of objects, instructional words, and related descriptive concepts are taught. It was anticipated that by the end of the dual-kindergarten period, the children would enter first grade with a language competence that would enable them to learn in a middle-class public school setting.

- B. Reading: The objective for the reading program can be expressed rather simply -- to teach children to read (decode) words.

However, this objective implies a number of sub-objectives that had to be met.

1. To identify letter symbols (identifying them as sounds) using the short vowels, long vowels, and the consonant sounds.
2. To sequence action events in time.
3. To read a symbolic representation of action events, ordered on an arrow that proceeds from right to left.

4. To identify words that are presented "slowly."  
(Tell me what it is and you can see the picture:  
motor----cycle. What is it?)
5. To say words that are presented at a normal speaking rate slowly. "Listen: me. Say it slow..."
6. To slide continuous sounds, without pausing between sounds (The child reads the symbols f a s m a s  
fffffaaaaassssssmmmmmm, with no pause).
7. To read words that do not involve stop sounds. (The child reads the word fan first by reading the symbols without pausing---fffaaannn--and then saying it fast, identifying what he has said as a word. What word is it? Fan.)
8. To handle words that begin with a stop sound (can).
9. To read irregularly spelled words. (These are introduced only after the child has cracked the code and can handle regularly spelled words.)
10. To read groups of words.
11. To identify upper- and lower-case letters by their conventional names.
12. To recite the alphabet.
13. To write the letters presented in the reading program.

C. Arithmetic: There was assumed to be a range of individual differences within any group assigned to the Dual Kindergarten. Some children will proceed more rapidly than others. Some will know more initially than others. Therefore, two sets of objectives are implied -- one for the slower children and one for those who proceed more rapidly.

The objectives for the slower children:

1. To identify the numerals 1-10.
2. To be able to handle verbal problems of the following form: If you had four raisins and I gave you one more raisin, how many raisins would you have?

3. To solve written problems of the form:

$$3 + 2 =$$

$$3 - 2 =$$

4. To handle problems of changing such statements as

$$4 + 6 =$$

so they are true. This objective is extremely important for disadvantaged children. Often they fail to learn what the equal sign means (namely that what is on one side is the same numerically as what is on the other).

5. To work problems of the form:

$$5 + 3 =$$

using finger operations.

The objectives for the faster children included all of the objectives for the slower children and in addition:

1. To identify the numerals 11-100.
2. To learn basic multiplication operations (using a multiplication chart).
3. To group a fixed number of objects into two piles and state the addition facts that derive from the grouping.
4. To handle 0 and 1 problems that are presented verbally.
5. To handle problems of the form:

$$3 + a = 5$$

$$3 - a = 1$$

## METHOD

### Subjects

Table 1 shows some of the characteristics of the 20 children who participated in the study.

### Treatment

The children in this study were randomly assigned to the experimental dual kindergarten program or the control kindergarten class.

Table 1

Group Composition

Program	N	Binet CA	Mean Entering Binet I.Q.	Intelligence Strata						Race - Sex			
				High	N	Med	N	Mean Low	N	Black		White	
										M	F	M	F
Experimental Dual Kindergarten	10	61.8	86.2		0	93.3	3	83.3	7	4	4	0	2
Control Dual Kindergarten	9	61.2	89.4	100	1	94.7	3	84.3	5	2	4	3	0

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The experimental dual kindergarten group attended a regular public school kindergarten class in the morning and an academically oriented kindergarten class in the afternoon at the University of Illinois. The control kindergarten class attended the same kindergarten classes in the morning as the experimental dual kindergarten group, but did not attend any kindergarten program in the afternoon.

The ten children selected were placed in a class of fifteen five-year-old children who had attended the experimental class as four-year-olds. These fifteen second-year children attended only the afternoon class. Being placed in a class of experimental children had several advantages: the experienced children helped the new children become acquainted with the routine of the school; the experienced children were familiar with the subject matter; and the combined classes enlarged the grouping possibilities. All of the children were grouped for subject matter areas. After the first few weeks, it was possible to combine some of the slower children from the first- and second-year classes into one group. The twenty-five children were taught by three experienced subject-matter teachers, plus one teacher who handled activities other than subject matter areas. Twelve student teachers also participated in the program under the direction of the experienced teachers. The children attended the class from September to early June and followed a normal public school calendar.

#### Testing Procedure

The battery of tests used consisted of the Stanford-Binet, Illinois Test of Psycholinguistic Ability (ITPA) and the California Achievement Test Lower Primary. The Stanford-Binet and ITPA were used as pretest and posttest measures and the California Achievement Tests were added to the battery as posttest measures. Certified school psychologists administered the Stanford-Binet and ITPA while a specially trained teacher administered the achievement test.

#### Result

The Stanford-Binet, ITPA and the California Achievement Test were used as posttest measures to evaluate the progress of the groups. The groups differed somewhat on initial scores and the initial Stanford-Binet scores were used as an initial covariate to statistically adjust for the initial differences between the groups.

A comparison of the experimental and control dual kindergarten groups on the California Achievement test is shown on Table 2. The P values from the table indicate that there are substantial differences in achievement between the two groups. Because the titular descriptions of the various achievement areas are not very

Table 2

Unadjusted and Adjusted Mean Grade Placement Scores on California Achievement Test						
	Experimental Dual Kindergarten		Control Dual Kindergarten		Adjusted Mean Difference	P*
Reading Vocabulary	1.19	1.20	.88	.87	.33	.01
Reading Comprehension	1.21	1.24	.45	.42	.82	.01
Arithmetic Reasoning	1.24	1.24	.93	.92	.32	.005
Arithmetic Fundamentals	.99	1.00	.15	.14	.86	.005
Spelling	.75	.79	.00	-.04	.79	.01

P\* based on analysis of covariance of posttest scores using initial Stanford-Binet IQ as the single covariate (d.f. = 1.16).

informative, a brief description of the various subtests seems in order, along with the report of the accomplishments of the two groups.

The adjusted mean reading vocabulary scores for the experimental and control dual kindergarten groups were 1.20 and .88. This data would seem to indicate that the groups differed by approximately three months in reading vocabulary. This is somewhat misleading; the reading vocabulary consists of four separate subtests and the groups differed markedly on several of the subtests.

Reading vocabulary consists of the following subtests: word form, word recognition, meaning of opposites and picture association. Word form consists of twenty-five items in which two words are separated by a dotted line and the child is required to write "S" or "D". Word recognition is made of twenty sets of three words and the child's task is to underline the word pronounced by the examiner. Meaning of opposites contains fifteen boxes in which are a response word and two distractors. The child matches the key word with its opposite. The picture association subtest contains fifteen items and requires the child to identify objects or interpret pictures.

The raw scores on Table 3 show that the groups differed hardly at all on the word form subtests but differed consistently in word recognition, meaning of opposites and picture association. Performance on the word form subtest, which involves simply saying whether the forms of words are the same or different, is little related to other subtests which involve making use of the meanings of words. Not one of the subjects in the control group gave a correct answer to the items on the word recognition and meaning of opposites subtest. One of the children in the control group made one correct response to the picture association subtest.

The reading comprehension test requires a written response to a missing letter or the reading and understanding of a few sentences or a brief paragraph. There was a difference of over eight months in grade placement scores on this test between the two groups. The experimental group averaged 2.9 correct responses while the control group's average was .66.

These data from the comprehension test complement the data from the spelling test which should be viewed as a test of skill in the use of phonics. The spelling ~~test~~ begins with the words: as, it, can, cat and fox. As Table 2 indicates there is a significant difference in performance between the groups in spelling. None of the children in the control group was able to sound out a single word while the experimental group spelled an average of 1.4 words.

The difference between the two groups on the arithmetic reasoning test was highly significant at the .005 level. This subtest

Table 3

Means and Standard Deviation of the Raw Scores of the Four subtests of Reading Vocabulary				
	Experimental		Control	
	M.	S.D.	M.	S.D.
Word Form	13.30	4.9	11.11	3.33
Word Recognition	9.50	6.2	0.00	.00
Meaning of Opposite	1.30	.17	0.00	.00
Picture Association	5.90	2.33	.11	.33

also is composed of a meanings and a problems section. The meanings subtests involve numerically identifying objects, reading number words and comprehension of size, sequences of numbers, value of coins and ability to tell time. The problems section involves simple arithmetic problems in which the answer is found by manipulating the objects on the page. The raw scores indicate that the two groups did not do equally well on the two subtests. The E.D.K. group had an average of 13.9 correct responses on the meaning subtest of the arithmetic reasoning test while the C.D.K. group had a mean of 7.2 correct responses. Neither of the two groups performed well on the problems section of the arithmetic reasoning test. The E.D.K. averaged 1.1 correct responses while the C.D.K. group had no correct responses. It would seem that most of the differences between the two groups on arithmetic reasoning can be attributed to the meanings subtest.

On the Arithmetic Fundamentals Test the differences between the two groups were substantial and significant at the .005 level. The E.D.K. group had an adjusted mean score of 1.00 while the C.D.K. group had an adjusted mean score of .14. This subtest consists of sections on addition and subtraction. The E.D.K. group had a raw score mean of 8.3 in addition and a raw score of 3.7 in subtraction while the C.D.K. group had a raw score of .11 in addition and .00 in subtraction. These data seem to indicate that the E.D.K. group learned a considerable amount about beginning addition and subtraction but that C.D.K. group learned very few facts in this area.

The scores reported in Table 4 are I.Q. scores for the Stanford-Binet and Language Age scores for the I.T.P.A. The two groups differ significantly from each other only on the auditory vocal association subtest. This task appears to be a test of verbal analogies, however, an acceptable response from the child requires only that the child respond with an "obviously" related answer. This subtest then seems to measure ability to understand extended sentences.

#### CONCLUSION

The consistently higher scores of the experimental children on the California Achievement Test indicate that the academically oriented program taught those children many of the skills essential to doing arithmetic and reading. Such skills and concepts would hopefully be of immediate benefit to the educationally disadvantaged child when he arrives in first grade.

There was no significant difference in the gain on the Binet and the ITPA between the two groups, although both groups made good gains on both tests. This seems an indication that the children in all the classes received strong instruction and language

Table 4

## UNADJUSTED AND ADJUSTED MEAN SCORES FROM STANFORD-BINET AND I.T.P.A.

	Exp. Dual Kindergarten		Control Dual Kindergarten		Adjusted Mean Difference	P*
	Unadjusted	Adjusted	Unadjusted	Adjusted		
Stanford-Binet	99.50	100.59	97.44	96.22	4.37	N.S.
I.T.P.A.						
Auditory-Vocal Automatic	57.60	59.10	52.44	50.78	8.32	N.S.
Visual Decoding	72.10	71.32	68.11	68.97	1.35	N.S.
Motor Encoding	61.10	61.00	61.77	61.89	.89	N.S.
Auditory-Vocal Association	69.40	71.07	60.78	58.92	12.15	.05
Visual Motor Sequencing	65.60	66.34	59.00	58.18	8.16	N.S.
Vocal Encoding	60.70	61.71	74.89	73.76	-12.05	N.S.
Auditory Vocal Sequential	64.10	65.27	67.44	66.14	-.87	N.S.
Visual Motor Association	70.50	71.32	72.89	71.99	-.67	N.S.
Auditory Decoding	65.00	65.48	66.66	66.12	-.64	N.S.

P\* is based on analysis of covariance of posttest scores using initial Stanford-Binet scores as the single covariate (d.f. = 1.16)

and concept development. The gains made by the experimental children were less than had been experienced in the first year of instruction by groups in previous years. Several explanations for this are possible: the children were five instead of four when they entered the program, the long school day for five-year-old children, the presence of a large number of student teachers. The experienced teachers all felt that the work required of them in training the student teachers, and in making time available for the student teachers to work with the children, compromised their efficiency in their work with the children. They felt that the children did not get the intense, concentrated kind of teaching that previous groups of children had experienced. Finally, the compressing of a two-year program into a one-year program could be an important reason for less gain on these tests. The investigators did not feel that enough evidence was available at the end of the year to truly assess the feasibility of this acceleration. Some of the children were able to progress at a rapid rate through the early stages of the program, and a few of them were able to join the middle group of the second-year children. It was not possible, however, to get the lower children through the entire two-year curriculum.

As a program for the public schools, the Dual Kindergarten seems a plan worthy of further investigation. It is strongly recommended that if such a program were adopted by a school system, that there be strong articulation between kindergarten and first grade so that the skills and concepts acquired in kindergarten could be continued systematically and without interruption in the first grade. Such articulation would be particularly beneficial to slow children who needed a longer period of time to be taken through the special curriculum. It would seem, however, that a strong and continuous kindergarten and grade school program for educationally disadvantaged children would be the best possible way to maximize and strengthen the early gains derived from intense and direct instruction in academic skills in the kindergarten year.

#### SUMMARY

From a group of twenty children attending morning kindergarten in the public schools, ten were placed in an experimental class every afternoon held at the University of Illinois. The ten control children attended only the public kindergarten. The study was a pilot investigation of a proposed Dual-Kindergarten program for the Champaign Unit 4 Public School District. The curriculum for the experimental class was developed from a two-year language, reading and arithmetic program which had been developed for preschool and kindergarten age children by Carl Bereiter, Siegfried Engelmann and their co-workers at the University of Illinois. The feasibility of compressing the two-year program into a one-year program for older children was a part of the investigation. The program ran

from September to June. A regular school schedule was followed. The twenty children were selected from summer Head Start classes.

The Stanford-Binet and the Illinois Test of Psycholinguistic Abilities were used as pretests and posttests. The California Achievement Test, Lower Primary, was used as a posttest measure of reading and arithmetic skills. Substantial differences between the two groups of children on the California Achievement Tests indicated that the experimental group learned considerably more than did the control group about word recognition, meaning of opposites, picture association, reading comprehension and spelling. In arithmetic skills the experimental group performed significantly higher, at the .005 level, on arithmetic reasoning and fundamentals. Both groups made gains on the Stanford-Binet and the ITPA. The difference between the gains was not significant, except for the Auditory Vocal Association subtest of the ITPA, in which the experimental group scored significantly higher.



Follow-Up Data on the Achievement of Disadvantaged  
Children Who Participated in an Academically-  
Oriented Preschool Program

Ernest D. Washington and Helen B. Bereiter

INTRODUCTION

This report summarizes data collected on the achievement of children two years after they participated in a preschool devised to teach academic content to the disadvantaged. This effort, initiated by Carl Bereiter and Siegfried Engelmann, may best be described as an attempt to extend instructional technology to the area of preschool education.

In recent years, there has been a vast expansion of research into the needs and characteristics of disadvantaged children; this study was a part of that expansion. It differed from most, however, in that it sets as its goals the teaching of specific academic content rather than a general cultural enrichment. The assumption underlying this effort was that disadvantaged children lack many of the prerequisite skills for academic learning and that a carefully sequenced curriculum could fill in the gaps and unsnarl these impediments to efficient learning. With this objective in mind, the experiment had two major purposes: to detect and eliminate deficiencies in learning, and to determine how much academic material could readily be learned by disadvantaged preschool children. Bereiter and Engelmann decided to center their curriculum around language, reading and arithmetic -- not because they were certain that these areas were the key to eliminating cultural deprivation, but because they knew that these areas were ones in which disadvantaged children often encountered problems in schools.

C. Bereiter and S. Engelmann (1968) described the evolution of the preschool, sketched the curriculum and have presented some data on the achievement of these children during their two years in the preschool. The task at hand, therefore, is to describe the accomplishments of these children in primary school, to discuss some of the problems they encountered there, and to provide follow-up data from the Stanford-Binet and ITPA.

METHOD

It should be remembered that this initial group was somewhat unique and was chosen on a different basis from subsequent experimental groups. Teachers in schools of a predominantly lower-class

Negro neighborhood in Champaign-Urbana, Illinois, were asked to list students experiencing difficulty in learning who came from families in which "cultural deprivation" was a factor and who had a four-year-old child in the family. On the basis of these lists, showing the children's family history and current circumstances, staff members of the preschool initially selected those four-year-olds who would be most likely to encounter difficulties in school. They then contacted the parents of these children and explained the nature of the preschool program. In only one case did the parents elect not to send their child to the preschool.

As a result of the method of selection of the experimental group and the absence of a contrast or control group, the usual inferential statistics do not apply and test norms seem to be the most appropriate standard with which to compare the current accomplishments of this group. In addition to the standardized tests, a questionnaire was available on which the second-grade teacher rated the children on their academic achievement, work habits and social development. Also available was a comprehensive case study follow-up of these children by H. Bereiter (1968). Material from each of these sources is used in describing the accomplishments and adjustment of the children.

Follow-up data are available for only twelve of the fourteen children who were reported on by C. Bereiter (1968). One child moved from the community; another is in a behavior modification class and arrangements could not be made for his testing.

## RESULTS AND DISCUSSION

Table 1 shows the achievement test data for the California Achievement Tests (lower primary). These data rather than data from Intelligence and Language Tests will be the focal point of this report because it is achievement that is the goal of the preschool and of the public schools.

In looking at these data, then, scores should be interpreted with an average grade placement of 2.7 as a reference point. A glance at the total grade placement scores shows that five children in the two-year group are achieving at or above their grade level; three children are somewhat below grade placement but functioning at a second grade level, and four children are functioning at a first grade level. It should be noted that Child D was in the first grade during the past year while the others were in second grade.

In addition to the achievement test results, data are available at four intervals on the Stanford-Binet and Illinois Test of Psycholinguistic Abilities. Mental Age scores for the Binet (Table 2) and ITPA Language Age scores (Tables 3-12) are presented to give some indication of the progress made by the children while

Table 1

California Achievement Tests (Lower Primary)

Subject	Reading Vocab.	Reading Comp.	Total Reading	Total Arith.	Total Lang.	Total Batt.
A	3.0	4.0	3.3	3.0	2.8	3.0
B	1.3	1.2	1.3	1.2	1.8	1.4
C	1.3	1.5	1.4	1.6	1.7	1.6
D	1.6	1.6	1.6	1.8	2.0	1.8
E	3.3	2.8	3.3	3.1	3.2	3.2
F	2.3	2.3	2.3	2.0	2.3	2.2
G	3.3	4.0	3.6	2.4	3.6	3.3
H	2.2	2.1	2.2	1.8	2.0	2.0
I	2.4	2.5	2.5	2.0	2.0	2.1
J	2.6	2.3	2.5	2.5	2.9	2.7
K	2.3	2.1	2.3	3.0	3.4	2.9
L	1.8	1.9	1.8	1.9	1.8	1.8

Table 2

Stanford-Binet Mental Age

Subject	CA	1964	1965	1966	1968
A	4-0	5-0	4-7	6-8	8-8
B	4-8	4-5	5-0	6-0	6-6
C	4-2	4-1	5-1	6-6	7-0
D	3-11	5-0	4-7	5-4	6-2
E	4-11	4-7	5-5	5-8	7-8
F	4-11	5-3	5-11	6-11	8-6
G	4-10	4-9	5-4	6-2	9-2
H	4-2	4-1	4-10	5-7	7-4
I	4-1	4-5	5-4	6-2	8-2
J	4-6	4-7	5-9	6-8	8-6
K	4-8	4-4	5-2	6-2	8-2
L	4-10	4-6	5-3	6-2	7-6

Table 3

## ITPA Auditory-Vocal Automatic

Subject	CA	1964	1965	1966	1968
A	4-0	4-3	6-1	6-1	6-6
B	4-8	2-4	3-10	3-10	5-0
C	4-2	3-6	4-3	4-3	6-1
D	3-11	2-4	3-1	3-6	4-7
E	4-11	4-7	6-1	5-4	8-0
F	4-11	2-4	4-3	5-0	8-0
G	4-10	4-3	4-7	5-9	8-0
H	4-2	3-6	6-10	4-3	6-6
I	4-1	3-10	5-0	5-0	8-0
J	4-6	4-3	5-9	6-10	7-3
K	4-8	3-10	5-0	7-3	9-1
L	4-10	4-3	4-7	6-1	6-1

Table 4

## ITPA Visual Decoding

Subject	CA	1964	1965	1966	1968
A	4-0	4-5	6-8	5-10	8-9
B	4-8	4-1	3-4	4-9	6-3
C	4-2	4-1	4-5	5-10	6-3
D	3-11	4-1	5-6	6-3	5-1
E	4-11	2-8	4-9	4-1	6-8
F	4-11	3-4	6-3	8-9	8-9
G	4-10	4-5	4-5	4-9	7-3
H	4-2	3-8	4-9	6-8	6-3
I	4-1	2-8	5-6	5-6	8-9
J	4-6	4-5	6-3	5-10	7-3
K	4-8	4-1	5-2	6-8	7-1
L	4-10	2-8	2-8	5-6	7-3

Table 5

## ITPA Motor Encoding

Subject	CA	1964	1965	1966	1968
A	3-11	5-5	4-2	6-4	6-10
B	4-8	2-11	4-2	3-2	5-5
C	4-2	2-11	2-11	5-10	5-5
D	3-11	2-9	4-2	4-2	5-0
E	4-11	3-6	4-2	5-5	5-10
F	4-11	5-0	5-5	6-10	8-8
G	4-10	2-6	2-6	2-6	5-10
H	4-2	3-2	4-2	3-10	6-4
I	4-1	3-6	4-7	5-0	7-4
J	4-6	3-2	5-5	4-2	7-4
K	4-8	2-11	3-10	6-4	8-8
L	4-10	3-2	4-2	6-10	8-8

Table 6

## ITPA Auditory-Vocal Association

Subject	CA	1964	1965	1966	1968
A	4-0	3-8	4-11	6-1	8-3
B	4-8	2-8	4-5	5-3	5-10
C	4-2	3-1	4-5	5-3	6-10
D	3-11	2-10	3-6	4-8	6-6
E	4-11	4-8	5-10	6-10	9-0
F	4-11	4-8	5-3	6-10	7-3
G	4-10	4-8	5-6	6-6	7-8
H	4-2	3-8	4-11	5-6	6-10
I	4-1	3-11	4-8	6-10	7-3
J	4-6	4-2	4-5	7-3	7-8
K	4-8	4-11	4-2	5-3	8-3
L	4-10	3-11	4-8	5-10	6-6

Table 7

ITPA Visual-Motor Sequencing

Subject	CA	1964	1965	1966	1968
A	4-0	3-11	3-0	4-10	5-8
B	4-8	4-7	4-4	6-4	6-4
C	4-2	4-7	5-8	5-1	5-4
D	3-11	2-7	4-2	5-4	5-4
E	4-11	5-1	5-1	5-1	5-8
F	4-11	4-2	4-10	5-8	6-9
G	4-10	4-10	5-4	4-10	8-5
H	4-8	3-8	3-4	5-4	9-0
I	4-1	4-10	3-4	5-1	6-4
J	4-6	3-11	5-8	5-4	5-4
K	4-8	4-7	2-7	3-11	8-5
L	4-10	3-0	3-8	4-4	5-8

Table 8

ITPA Vocal Encoding

Subject	CA	1964	1965	1966	1968
A	4-0	5-4	8-11	5-8	8-11
B	4-8	3-2	5-1	6-4	4-9
C	4-2	3-2	5-4	5-1	5-1
D	3-11	2-3	6-4	6-7	4-5
E	4-11	5-1	6-0	6-7	8-11
F	4-11	4-5	5-1	6-11	8-11
G	4-10	3-10	3-6	5-1	6-7
H	4-2	2-3	6-0	4-9	5-4
I	4-1	3-2	5-4	8-11	6-7
J	4-6	2-3	5-4	6-4	6-11
K	4-8	3-10	5-1	6-11	7-4
L	4-10	2-7	5-4	4-9	7-4

γ

Table 9

## ITPA Auditory-Vocal Sequencing

Subject	CA	1964	1965	1966	1968
A	4-0	5-11	8-6	8-6	8-6
B	4-8	3-3	2-11	5-11	5-1
C	4-2	6-7	6-7	8-6	8-6
D	3-11	3-1	3-7	5-4	5-11
E	4-11	4-7	5-11	6-3	7-4
F	4-11	6-3	8-6	8-6	8-6
G	4-10	3-9	3-7	5-4	6-3
H	4-2	3-5	4-7	5-1	6-3
I	4-1	5-4	8-6	8-6	8-6
J	4-6	6-7	5-11	7-4	8-6
K	4-8	4-7	4-7	5-1	5-11
L	4-10	4-2	4-10	4-10	5-11

Table 10

## ITPA Visual-Motor Association

Subject	CA	1964	1965	1966	1968
A	4-0	4-4	6-6	5-5	8-7
B	4-8	2-11	6-1	7-10	7-6
C	4-2	3-8	4-8	4-8	6-1
D	3-11	2-11	7-2	6-1	6-1
E	4-11	4-4	5-9	5-1	7-6
F	4-11	4-4	5-9	5-1	5-9
G	4-10	2-11	6-6	5-5	8-7
H	4-2	2-11	7-6	7-6	7-6
I	4-1	5-1	4-0	5-9	8-3
J	4-6	4-0	5-1	7-6	8-7
K	4-8	4-4	4-0	4-4	8-7
L	4-10	4-4	8-3	4-8	7-6

Table 11

## ITPA Auditory Decoding

Subject	CA	1964	1965	1966	1968
A	4-0	5-2	6-2	7-11	8-1
B	4-8	4-5	4-7	5-5	5-1
C	4-2	4-1	5-2	6-9	4-5
D	3-11	4-5	3-10	5-0	8-1
E	4-11	4-1	5-8	4-7	7-1
F	4-11	5-0	4-7	7-11	7-1
G	4-10	4-5	3-10	4-5	7-6
H	4-2	5-0	6-9	5-2	5-5
I	4-1	4-7	4-9	6-9	5-0
J	4-6	4-7	4-3	7-1	8-1
K	4-8	3-10	3-10	6-5	8-1
L	4-10	4-9	4-9	4-3	8-1

Table 12

## ITPA Total

Subject	CA	1964	1965	1966	1968
A	4-0	4-9	5-11	6-6	8-3
B	4-8	3-5	4-3	5-6	5-9
C	4-2	4-0	4-11	5-9	5-9
D	3-11	3-1	4-6	5-3	5-1
E	4-11	4-4	5-6	5-5	7-3
F	4-11	4-6	5-5	6-8	8-1
G	4-10	4-0	4-3	4-11	7-4
H	4-2	3-7	5-4	5-4	6-8
I	4-1	4-3	5-1	6-7	7-9
J	4-6	4-3	5-3	6-5	7-9
K	4-8	4-2	4-3	5-8	8-5
L	4-10	3-7	4-9	5-1	6-1



in the preschool and in the public schools. In examining these data, it should be remembered that the first complete testing of these children occurred after four-to-five weeks of schooling, rather than at the very beginning of the preschool experience. It is during these initial few weeks that the children generally become less concerned about their new surroundings, learn to attend to the teacher and generally get on with the business of becoming students rather than observers. Weikart (1967) includes a characterization of the adjustment of children to a preschool in a very interesting fashion: Stage One -- Silence; Stage Two -- "Des god damn peaches am burning"; and Stage Three -- "These god damn peaches are burning." By this cryptic description, he shows that the child is at first anxious, he then begins to talk and, finally, he begins to learn appropriate classroom behavior. The first two stages are traversed very quickly, and it is here that most preschool programs make their gains and their impact.

When one looks at these data, it is quite noticeable that some of the subtests of the ITPA show a great deal of variability. The tables which show the least variability and which are the most reliable are the Mental Age scores of the Binet and the Total score of the ITPA. It also happens that these scores are the most difficult to interpret. On both of these tests, the children show a fairly consistent shift from below average to above average during their preschool years.

These data on Mental Age and ITPA Total also indicate something about the differential effect of the performance of the children in the preschool and in the public schools. While in the preschool, all of the children showed gains in the Binet and ITPA, although there was some indication that the lower-achieving students were doing less well. With the change from preschool, those children who have not been doing well in the preschool began to make even less progress on the Binet and ITPA. The data from the subtests of the ITPA mainly corroborate the data from the ITPA, with the added disadvantage of a ceiling effect. On several of the subtests, one or more of the children have reached their ceiling, and little additional information can be gained from giving all of the subtests when the children are re-evaluated.

Since the children are so few in number, it would not be inappropriate to make a few comments about each one. This may help give greater insight into their behavior in the preschool and the public school and also point out the effect the children's homes may have had on their behavior in the school setting. While it is true that the case study approach can be somewhat misleading because it ignores normative kinds of data and may concentrate on idiosyncratic behavior, this is not necessarily a flaw in the case of disadvantaged children. For it is just such stuff with which the school must deal. To ignore these data is to ignore the realities of the circumstances in which the child lives.

Four of the children who participated in the initial academic preschool are functioning well below grade level; and it is important to examine their current status and try to learn something that will be of help in teaching other children. It isn't enough to say that these children are not successful; one must look to find the shortcomings of an approach and then search for ways to remedy the inadequacies in the program.

First we ought to consider Child D, for it now appears that she is a full year younger than the other children who participated in the preschool. The mother was not available when D entered the preschool, and D's birthdate was recorded incorrectly. Her progress was very slow during her first year, but she began to move at a faster rate during her second year. She functioned somewhat below average during her year in first grade. Because she was younger than her classmates, her teacher and her mother decided that D should repeat first grade even though she was functioning at a higher level than some of the children who went on to second grade. When considering her grade placement score of 1.8, therefore, it should be remembered that while somewhat below expectation for someone repeating first grade, it is appropriate for someone of her chronological age.

L lives with mother, father, and four siblings. The father is a seasonal truck driver, and the mother works in a hospital laundry. Their home is a depressing structure, among the worst in the community. During his years in the preschool, L's performance was very disappointing. He learned things slowly and could not seem to transfer his learning to new situations. He applied himself diligently and constantly sought positive attention and feedback, but he seemed to learn very little. His educational performance did not change during first grade. He learned very little and was eventually placed in the lowest group in his class. During first grade, his behavior became more and more disruptive, and he was placed in a behavior problem class during his second year. With the judicious use of positive reinforcement, he is no longer a disruptive influence in the classroom. His teacher now reports that he is adjusting well in class and that his educational performance is improving.

B and C, cousins, are both performing at the first-grade level -- a performance, we should note, that is in line with the expectations of their families. Neither of these children made very much progress during the preschool, but for seemingly opposite reasons. C learned quickly but seemed to retain very little from day to day, while B learned with agonizing slowness but seemed to retain what she did learn. Both come from the same large extended family which exists in extreme poverty. B is being reared by her grandmother who is less and less able to provide supervision and direction. Her mother has never been available to provide information about the family, and the grandmother could, or would,

provide very little such information. B did very poorly in first grade and did not get along well with her teacher or her peers. Her teachers feel that she is uninterested in school, and her inappropriate behavior and dress have alienated her from her peers.

C lives with his mother, father, and four siblings, but much of his supervision comes from his grandmother. His mother has told staff members that he is "dumb" and she does not seem to believe that C can learn very much. While in the preschool, his IQ changed from 95 to 117; but this change in score seemed unrelated to his learning in the preschool, for he learned very little. When he entered the public schools, his teachers quickly found out that he knew little and seemed to make the quick judgment that he could not learn.

What, then, can we surmise about the reasons for the failure of B, C, and L? In looking at their classroom behavior, we find that they have not been successful for varied reasons; but we can say generally that they knew little when they came, they learned very little, and, probably most important, they seemed to have little interest in learning. It is obvious that very little can be concluded from such a small sample, but if we look at the other groups of children who participated in the Bereiter-Engelmann program, we find almost always that 20 to 25% of the children do not seem to profit from the preschool experience. Weikart (1967) also reports that about the same percentage of children in his experimental program appear to derive no benefit from the experience.

One has only to look at these children to understand why there is so little success in this group. These are the children who are deeply immersed in poverty. These children come from multiple-problem homes. Their families are on the bottom of the socio-economic scale and neither they nor their families see much chance of improving their lot in life. These children and their families require more than a preschool experience to help them out of the depths of their disadvantage. It is unrealistic to hope that any preschool program, or anything the public schools can do, can have much impact on their lives without help on a massive scale.

As contrast to the children described above, let us now give a brief account of the children who have been functioning nearer to their grade level, or above it.

Child A comes from a family which is intact; his father is a construction-laborer and his mother works as a waitress. The child has four older siblings who have consistently performed very poorly in school, but his achievement tests place him above grade level. His scores are also well above average on the Stanford-Binet. At the end of the preschool, he ranked at the class median in achievement; and the few problems he has had during preschool and in public school have had more to do with motivation than with "ability to

learn." While it is difficult to separate motivational considerations from learning, it is possible to surmise that the child probably benefits most from gaining a greater perception of his own competence. His brothers and sisters had always performed poorly in school, and his parents had no reason to believe he would do any better. But when he began to return from the preschool and demonstrate his new knowledge at home, both he and his family appeared to gain new insights into his abilities. The belief that he could do well at school began to reinforce his achievements.

E is now performing well above grade level, but she began preschool as a hyperactive student who had difficulty adjusting to academic instruction. Under more "traditional" circumstances she might have been labeled in some fashion and placed in a special class; instead, a serious attempt was made to teach her academic materials and appropriate behavior. During her second year in the preschool, her parents were divorced. It is possible that tensions created by this situation at home were reflected in her erratic performance at school. After a while, the defiant behavior at school all but disappeared and the child responded well to classroom instruction. E is now participating in a class for promising disadvantaged children.

Child G, whose father is a cook and whose mother occasionally works as a waitress, learned easily and well during her two years in the preschool and is now performing well above grade level. When she entered an accelerated middle-class white school, she encountered many of the problems common to disadvantaged children. Although she was ahead of her peers in knowledge of academic subject matter at the beginning of first grade, she lacked the breadth of experience her peers possessed. During first grade she was ahead of the class for some time, but gradually her classmates began to catch up. She is now functioning at about an average level in the class. It is highly likely, however, that she would not have been able to remain in an accelerated class if she had not possessed some academic skills when she entered the public schools. She would have lagged behind from the beginning and never had a chance to catch up.

In contrast to her first grade performance in the middle track in her school, Child H is now functioning below her grade level in the second grade. A member of a large extended family, she saw very little of her mother during her preschool years. After her mother's remarriage just before H entered first grade, H went to live with her mother, step-father, and two younger siblings in an attractive bungalow in a lower-middle class neighborhood. However, H was assigned to attend a school located in a different neighborhood, one which was considered very anti-Negro. She encountered great difficulty adjusting to this school, and for second grade, her mother placed her in a Catholic school. Her teacher there reports that her reading skill is that of an average second grader,

but that she reads very slowly. Her slow reading rate often reflects itself in poor reading scores.

Child I has recently completed second grade and is functioning somewhat below his grade level. Both parents are employed full-time in rather menial jobs and have little time to devote to their four children. Though the child is not functioning to expectations, he is the star pupil in his home and often helps his older siblings with their homework. He was not highly motivated to achieve during the preschool; and teachers in the public schools have noted that he has the ability to learn but rarely has much interest in learning. An important factor in this lack of motivation can doubtless be found in the attitude of his parents: they assume their children will probably never finish high school and have expressed this opinion both to child I and to his older siblings.

J is completing second grade in a class for intellectually promising lower-class children. She learned a great deal during her years in the preschool and was held in high esteem by her classmates for two unrelated reasons: she was smart and she was light-skinned. Because of her fair skin and preferential treatment at home, she fastened on to the notion that she was white. For obvious reasons, this notion caused her some problems in a racially-mixed elementary school. While she was in first grade, her father's long illness and subsequent death affected her interest in attending school. Her year in second grade, however, seems to have been more productive, and she currently enjoys school more than she has in the past.

K was completing second grade at the time of testing and ranked in the top third of the children, well above grade placement. His achievement scores in the preschool had also placed him in the top third of the class. During his time in the preschool, he lived with his mother and seven siblings. His father had not been living in the home and, as a matter of fact, was killed during his first year in the preschool by a close relative of two other children in the class. His father's desertion and death did not seem to affect K's behavior or learning in class, but very likely did affect that of his older brothers and sisters. K and his younger brother, who also attended the academic preschool, are doing quite well in school; the older children are all having difficulties. Ironically, it was discovered only late in his first grade year that his progress has probably been impeded by a severe hearing loss.

#### SUMMARY

This report provides some follow-up data on the achievement of the initial group participating in an academically oriented preschool. The children for this experiment were chosen because

they came from homes where their siblings were doing poorly in school and where cultural deprivation seemed to be a factor in their failure. They received instruction in reading, arithmetic and language for one hour per day over a span of two years and then entered the public schools. Data for this report covers the children two years after they participated in the program.

A goal of the preschool was to bring the children up to their age norms on school-relevant language and intellectual abilities. At the end of the preschool, the children had accomplished this goal, as indicated by their scores on the Stanford-Binet and the Illinois Test of Psycholinguistic Abilities. They also made considerable headway in arithmetic and reading.

Two years later, twelve of the original fifteen children were available for follow-up. Five of these children were functioning above grade level, three were somewhat below grade level, and four were well below grade level on the California Achievement Tests (lower primary). Data from re-administrations of the Stanford-Binet and the Illinois Test of Psycholinguistic Abilities showed that children in the lower-achieving groups had not maintained their gains on those measures as well as the high achievers.

## Achievement Components of Stanford-Binet Performance

Ernest D. Washington, Siegfried Engelmann,  
and Carl Bereiter

### PROBLEM

Strodtbeck (1964) has introduced a useful term for discussing the school-relevant aspects of social-class differences. He speaks of the "hidden curriculum" of the middle-class home, which provides children with those unspecified learnings that constitute adequate cognitive and behavioral preparedness for school. What is this hidden curriculum and what are the crucial parts of it that disadvantaged children miss? So far the question has been answered mainly by conjecture and the conjectures have tended to fasten upon the grossest and most obvious differences between middle- and lower-class childhood experience.

The hidden curriculum is, of course, a hypothetical construction, and so it would be futile to argue about what it really comprises. The most that could be hoped for in the way of definition is a set of specifications that 1) are in accord with the facts of childhood experience and behavior, 2) have some demonstrable relevance to subsequent academic performance, 3) are expressed precisely enough to permit objective evaluation, and 4) can rather directly be translated into pedagogical procedures or plans. Most of what is done in the name of "stimulation" or "enrichment" in early compensatory education can be viewed as an attempt to implement a hypothetical, hidden curriculum. But this underlying curriculum, to the extent that it is described at all, is specified in ways that fail on all or most of the above criteria.

In light of the hopes currently invested in preschool education, it would seem mandatory to explore more systematic ways of formulating the content of the implicit curriculum that the preschool purports to teach. In our work to date we have attempted to do this through the analysis of key bodies of subject-matter--expository language, reading, and arithmetic. The strategy has been that of working backward from more advanced curricula. Through this analysis and the ensuing curriculum experimentation, we have, it is believed, identified some of the critical preschool learnings relevant to these particular areas of achievement. We now propose a different approach to identifying the content of this hidden curriculum, which promises to encompass learnings of more general utility for academic achievement. It amounts to working upward from test content rather than backward from more

advanced curriculum requirements. It should thus add another dimension to the work done previously.

The central idea behind the new approach is that the Stanford-Binet may be considered as an achievement test for this hidden curriculum. Ordinarily the Stanford-Binet, along with other tests of general intelligence, is considered as a measure of basic capacity for intellectual attainment. However, the Stanford-Binet purports to measure this basic capacity by testing the child's achievement in a number of areas not directly touched by the school curriculum. It was assumed that what the child just "picked up" from incidental experience would provide a surer index of his basic intellectual capacity than what he had been taught in school (since the latter might be influenced by the kind and quality of instruction he had received). As many recent critics have pointed out, this assumption only holds if children's out-of-school environments are fairly similar. But turning this point around, we may say that for children of different cultural backgrounds, who are presumably equal in basic mental equipment, differences in Stanford-Binet scores reflect the differential success of cultural environments in promoting those learnings that undergird academic achievement.

If, therefore, we wish to identify those elements of the out-of-school curriculum that are significant for school success, the content of the Binet items may provide us with some valuable guidance. We cannot presume that the authors who have taken part in development of the Stanford-Binet had the outlines of a "hidden curriculum" in mind in constructing the items. But the items that have gained a place in the Binet had to pass certain empirical tests that afford some reason to believe that they may validly reflect the content of such a curriculum nevertheless. They had to show a sharp age progression, indicating that the achievements were obtained at about the same time by most children. In addition, they had to have predictive validity for later academic performance, which does not necessarily mean that the achievements tested are themselves instrumental for later achievement, but it makes the hypothesis tenable. Other intelligence tests meet the same empirical criteria, but they do not contain the great diversity of substantive content that the Binet does, and, therefore, they are less promising as a guide to the identification of relevant content in the hidden curriculum.

The problem to which the present study is addressed is that of deriving a curriculum from a test. It is much like the problem one would face if he were shown the final examination for a high school course and was asked to deduce from it the course content. If the test satisfactorily sampled what was actually taught, the job would not be impossible and one could expect different people to come up with similar, though not identical, approximations to the actual curriculum. If the test were good but the curriculum was shoddy or not followed by the teacher, the inferred curriculum



might bear little resemblance to the actual one; but one would then be inclined to say that the inferred curriculum is the one that should have been followed if the test indeed reflects the hoped-for outcomes. That is the situation with deriving a curriculum from the Stanford-Binet: it does not represent a validatable guess as to what actually goes on in the middle-class home; it represents an ideal construction of what curriculum ought to be followed, in some fashion or other, in home or at school, if the Stanford-Binet indeed reflects the hoped-for outcomes of early learning experience.

In using a test as the basis for curriculum planning, it is important to distinguish curricula generated from content specifications and curricula generated from item types. Much current remedial work on learning disabilities uses curricula generated from item types. If a child exhibits inferior performance on a certain kind of item, say verbal analogies, he is given practice on a variety of verbal analogy tasks. Such practice often results in improved test scores, although it is always questionable whether such training will generalize beyond performance on the particular item type used in training. The assumption behind this kind of training appears to be that it will alter basic organismic characteristics, thus resulting in a change in school performance. Thus, supposedly, what the child gets out of training on verbal analogy tasks is not simply learning relevant to performance on these tasks, but some change in central nervous system functioning that will increase his capacity for other kinds of learning and performance. The similarity of this assumption to that of faculty psychology should be obvious. When applied to compensatory education for disadvantaged children, this assumption carries the implication that lower-class children differ from middle-class children in organismic characteristics and not merely in what they have learned. This hypothesis is tenable, although there is no evidence in its favor.

If a compensatory curriculum is to be based on hypothesized learning deficits rather than hypothesized organismic deficits however, this requires that test items be analyzed into learnable content components and not treated as integral units of learning. The hidden curriculum of the home does not teach or fail to teach verbal analogies as such. Indeed, the verbal analogy task, like most other test tasks, was deliberately chosen as one on which children would not have received specific training. Such specific training would simply destroy the predictive validity of the item, while teaching a skill that was selected because of its peripheral and hence very likely useless nature. We must assume, instead, that what the home environment typically teaches are certain bodies of information, relational concepts, skills, and attentional and procedural habits, which help the child execute verbal analogies tasks as well as a number of school tasks. The job for curriculum development, therefore, is to identify these underlying bodies of

content and teach them rather than treat the test items as if they represented the ultimate tasks for which children were being prepared.

### OBJECTIVES

This study began with three related objectives:

1. To carry out a task analysis of the achievement components of the Stanford-Binet items in the three-to-six year old range.

2. To construct and implement, through direct instruction techniques, a curriculum based on content categories identified through the above analysis.

3. To evaluate and revise the original analysis on the basis of comparison of test item performance and achievements in the curriculum.

As has been mentioned previously, the Stanford-Binet was chosen because of its diversity of content. It was assumed that this range of content would lead via task analysis to a curriculum which encompassed a wide range of verbal skills. As the analysis proceeded, it became clear that this was indeed the case. Moreover, it was also apparent that many of the achievement components of the Stanford-Binet could be taught in a very parsimonious manner. The discussion here will focus on the verbal items of the Binet because as one inspects the changes in item content from year three through six, the required responses change from predominantly nonverbal to verbal. The verbal items have the highest validity for predicting later school achievement and this is reasonable because the schools are institutions based on oral and written verbal materials.

The task analysis of the vocabulary subtest provides an example of the manner in which the task analysis began and the final direction it took in being incorporated into the curriculum. Concrete nouns from the Dolch (1936) list of "The First Thousand Words for Children's Reading" were chosen to teach vocabulary. This list was chosen because it avoided many of the problems involved in sampling from dictionaries and a useful vocabulary could be taught without the implication that the vocabulary of the Stanford-Binet was being expressly taught.

When one looks to what are considered correct responses for the vocabulary subtest at the six-year level, nine of the first ten words are concrete nouns and the requirements for a correct response is usually that an attribute of the noun be given. Looking over the first fifteen words, the following attributes were

found to generate questions whose answers were frequently sufficient for a plus response.

1. What are its physical dimensions?
2. Where is it found?
3. What are its uses or what purposes does it serve?
4. What is it made of?
5. What are its parts or of what things is it a part?
6. What are its special sensory or personal characteristics?

As the analysis proceeded, the teaching of the above attributes served two purposes. It aided in teaching knowledge which was applicable and useful for responding to other subtests. In addition, these questions implied other dimensions which should be taught in addition to those above. Thus, if use or purpose was taught, then this task might include comprehension as it occurs at year IV in the Binet. The teaching of "Where is it found?" also inferred the teaching of locations, "What is found in this location?" Thus the teaching of these attributes with the analysis of the other items led eventually to a more general list of attributes or concepts.

The final list of attributes was expanded to include the following: size, color, shape, part of, action, location, use, material, number and order. Teaching each of these concepts requires a knowledge of certain terms and grammar. After these basics were taught, each of the concepts was used in teaching similarities, differences and absurdities. We thus had a twelve by three matrix in which many different kinds of things could be taught in breadth and reinforced in both the similarity-difference and incongruity format (Table 1).

A second and very important characteristic of the content implied by the matrix is that the content can be taught at various levels of difficulty. Concepts and Attributes could thus be taught at the various levels in the same-different and incongruity format. Consider the various levels of difficulty at which Materials could be taught.

A. Same-Different.

1. a. Which one is the same--as this one?  
b. Which ones are the same?
2. Yes-no. Are these two the same?
3. Description. How are these two the same?  
Different? (Used with pictures)
4. Materials from memory. What kinds of  
materials are used in \_\_\_\_\_?
5. Description from memory. Like number  
three but without pictures.
6. Which materials could be used for \_\_\_\_\_?  
Which ones could not be used for \_\_\_\_\_?

**Table 1**  
**Similarities, Differences, and Incongruities**

This is a basic knowledge program built entirely around judgments of sameness and difference and detection of incongruities and absurdities. Same-different judgments and incongruity judgments run in parallel, covering the same set of attributes, as illustrated in the following list:

<u>Attribute</u>	<u>Language</u>	<u>Same-Different</u>	<u>Incongruity</u>
		Find the ones that are/are not	What's wrong in this picture?
A. size	terms; big, little, short, tall, etc. grammar: second-order statement patterns, multiple polars; later comparatives -- this pencil is wider than this pencil	the same size	Disproportionately large or small (shoe too small for foot)
B. color	color names grammar: second-order statement patterns, multiple polars, comparatives, superlatives	the same color	Unnatural color (pink tree)
C. shape	names of shapes grammar: second-order statement patterns, multiple polars	the same shape (pumpkin and apple)	Wrong shape or misshapen (square wheels, bent pencil)
D. part of	basic statement: A is a part of B	part of the same thing (pedal and handle-bars)	Missing or wrong part

(Table 1 continued)

<u>Attribute</u>	<u>Language</u>	<u>Same-Different</u>	<u>Incongruity</u>
E. action	tense, person, number adverbs: fast, slow, hard, soft, etc.	doing the same thing (at more advanced level, find ones that do or don't do same thing, action not shown)	Impossible or inappro- priate action (dog reading book)
F. location	terms: place names, prepositions. grammar: second-order statements with prepositions	found in the same place (stove and fridge vs. gas pump)	Out of place (ship in forest)
G. use	terms: examples of uses of various objects. grammar: second-order statements, multiple polars	used the same (spoon and fork vs. umbrella)	Inappropriate use (eating a book)
H. material	names of materials grammar: second-order statements, multiple polars	made of the same thing (plastic pen and comb)	Impossible or imprac- tical material (brick airplane)
I. number	terms: rate counting, counting of objects, number identification -- first, second, third, etc.	"Find the ones that have the same number of ___s."	Wrong number (six fingers or not enough cookies for each child)
J. order	examples of sequences	In the same order (large to small, or arbitrary order of given figures)	Wrong order (wrong sequence in action or growth series)
K. genus	learning of class names, example: truck, car are included in class of vehicles	in the same class (animals furniture, etc. -- will overlap with other attri- butes)	Foreign element in class (bird among mammals)

7. Compound material task: Find the one that is located in the same place.
8. Compound verbal identification tasks: I'm thinking of something that's the same size as A and is made out of the same material as B.

B. Incongruity. (Materials)

1. Point to the material that does not belong.
2. Yes-no. Is there anything wrong with this boat?  
Yes.
3. Explanation: What's wrong with \_\_\_\_\_?
4. Which material does not belong?
5. Description from memory. What are \_\_\_\_\_ made of?

Language usage, same-different and incongruities do not exhaust the formats for teaching the attributes and concepts. Bereiter, Case, and Anderson (1968) have suggested four other promising formats for teaching these concepts. The first they call knowledge, that is teaching the facts and principles which go beyond what the child already knows so that through guided cues the child can learn to extrapolate his knowledge. The second is productive thinking, that is, teaching the child to use concepts to solve problems. The third is operations or nonverbal tasks which involve getting or using information related to concepts. Finally, questioning is a format which teaches the child to ask questions about the concepts being taught.

The concepts and attributes are not mutually exclusive and certainly the various formats for presenting the concepts are not finalized. It remains to be seen whether these formats are more fruitful than others or if some combination of two formats is sufficient. Little effort was made to use the first three additional formats suggested by Bereiter although some attempt was made to teach the children self-questioning. That is, how does one go about teaching disadvantaged children to ask a question and to use the answer to formulate yet another question to solve a problem. Some beginning was made in this problem with the game which the children played analogous to twenty-questions in which the teacher responded only with yes-no.

At a low level of difficulty, the game began with the teacher placing two figures on the board and saying, "I am thinking of one of these figures." At the beginning the children often will claim that they know which of the figures the teacher is thinking about. These children are told that they can not know what figure the teacher is thinking about unless she gives some clue. It is possible to dramatize the point by showing the child two closed hands and asking the child, "Which hand has the raisin?" In the

beginning neither hand has a raisin and the child is rewarded for saying "I don't know."

Later figures which differ on two dimensions are presented on the blackboard and the child is taught that if one dimension is eliminated, the correct response is the remaining dimension. This general approach is extended to several dimensions with the child learning to eliminate alternatives. The terminal task of interest is verbally presenting the child with a class name such as animals and having the child figure out which animal the teacher is thinking about.

## METHOD

### Subjects

Subjects were 20 children selected according to the same socioeconomic criteria as in previous studies in this project. Table 2 shows some of the characteristics of the children who participated in this the "Binet" study and in two other approaches to preschool education in the larger research program at the University of Illinois.

### Treatment

The preschool ran for two hours a day, five days a week for the academic school year. Eighty minutes were devoted to instruction while forty minutes were used for supporting activities. During the first four months of the program, the children remained with one teacher for instructional purposes; during the remaining three months the children went from one class to another in much the same manner as children in the upper grades.

### Testing Procedure

The Stanford-Binet (S-B), Wechsler Preschool Intelligence Scale (WPPSI), and Illinois Test of Psycholinguistic Abilities (ITPA) comprise the battery used to evaluate the progress of the children. The testing schedule used is presented in Table 3.

Qualified school psychologists administered the WPPSI, S-B and ITPA while undergraduate assistants administered the curriculum test. The S-B was given four times so that the effectiveness of the curriculum could be repeatedly assessed. The Wechsler provided an independent check of the effectiveness of the curriculum to provide learning with some generality. The Achievement Test (Appendix C) was devised by the staff to assess the content of the curriculum.

Table 2

Initial Group Composition

Program	N	Mean Binet CA	Mean Binet IQ	Intelligence Strata Means						Race - Sex			
				High	N	Middle	N	Low	N	Black M	Black F	White M	White F
Binet	20	48.9	92.8	105.0	4	95.3	10	80.6	6	6	8	4	2
Traditional	27	52.4	94.1	107.6	8	93.2	12	83.0	7	10	7	5	5
Bereiter (Direct Verbal)	29	50.7	93.2	108.5	8	94.1	9	82.4	12	9	9	4	7



Table 3

Testing Schedule

<u>Instruments</u>	<u>Time</u>
WPPSI <sub>1</sub> , S-B <sub>1</sub> , ITPA <sub>1</sub>	0-3 months before school
S-B <sub>2</sub>	2 months after the start of school
S-B <sub>3</sub>	5 months after the start of school
Curriculum Achievement Test	8 months after the start of school
WPPSI <sub>2</sub> , S-B <sub>4</sub> , ITPA <sub>2</sub>	at end of school

## RESULTS

Table 4 indicates a mean gain of 12.9 on the Stanford-Binet over the year. Almost half of this gain (5.9) was achieved within the first two months of the program. During the following three months the children gained an additional 4 points. It is of some interest to note that the children gained, on the average, only 2.8 points during the final three months of the program.

The time periods are of some interest. The data indicates that the 6 points gained in the first three months represent the total gain of most preschool programs. The data also corroborate the findings of Kohlberg (1968) who noted that children in most structured preschool programs tend to gain from 12 to 16 points during the first year.

Table 4

Mean Stanford-Binet Scores for the Binet Group at the Four Intervals

Months of Intervention	0	2	5	8
Mean	92.8	98.8	103.0	105.8
S.D	9.67	10.77	9.21	10.50

Table 5 gives the scores on the Verbal, Non-Verbal and Total scores for the WPPSI. Table 5 shows that the children gained 15.4 points on the Verbal, 7.0 on the Non-Verbal and 12.6 on the Total score. These data indicate clearly the emphasis in the preschool program upon verbal skills and the relative de-emphasis on non-verbal skills. The total score is simply a combining of the verbal and non-verbal scores and is not nearly as informative as looking at the verbal and non-verbal scores.

Table 5

WPPSI, Pre- and Post-Test Scores

	Pre-Test	Post-Test
Verbal Mean	82.5	97.9
Non-Verbal Mean	85.3	92.4
Total Mean	82.2	94.8

It should also be noted that the Binet and WPPSI data are similar in terms of total gains but differ markedly in terms of level. The final Binet IQ is 105.8 while the final WPPSI total IQ is 94.8. The ten point difference between the WPPSI and the Binet is in line with other data obtained in other studies when both of these tests were used. Disadvantaged youngsters generally score about ten points lower on the Wechsler Intelligence Scale for Children than on the Binet.

Table 6 shows an analysis of Binet and WPPSI IQ gains by IQ strata or level. The data from the Stanford-Binet indicate that the high group, those children with initial IQ's over 100, had a mean gain of 3.7; those with IQ's between 90 and 99 had a gain of 14.7, and those children with IQ's below 89 had a mean gain of 16.2. These data suggest that the program was more effective for children with IQ's below 100, and that children with IQ's over 100 tended not to benefit as much from the program.

The WPPSI data present quite another picture. The WPPSI was included in the analysis to give an independent measure of the effectiveness of the preschool effort. The WPPSI verbal data indicate that all three strata benefited substantially from the program. The WPPSI non-verbal data suggest that limited gains were made by each of the strata. The total WPPSI scores indicate little difference in gains by strata.

A paired t test was used to measure the differences on the WPPSI between the pre- and post-tests (Table 7). On the verbal score this difference was significant beyond the .001 level. The difference between pre- and post-testing on the non-verbal WPPSI was smaller and significant at only the .05 level. The total score reflects the large gains in verbal skills and again the difference between the pre- and post-test was significant beyond the .001 level.

#### PREDICTION OF STANFORD-BINET PERFORMANCE FROM COURSE ACHIEVEMENT

To the extent that (a) the original conception of the Stanford-Binet as an achievement test is valid, (b) achievement components of Stanford-Binet performance were accurately identified, (c) the experimental curriculum embodied these components, and (d) the Achievement Test given at the end of the experimental program accurately indicated the children's degree of mastery of these separate components, then it should be possible to predict from Achievement Test results which Stanford-Binet items individual children would pass and fail. Accordingly, as a check on whether or not the above conditions jointly obtained, a small study was conducted on prediction of S-B item scores from Achievement Test item scores.

Table 6

IQ Gains by Intelligence Strata

Initial IQ Strata	Stanford-Binet	WPPSI Verbal	WPPSI Non-Verbal	WPPSI Total
High	3.7	14.5	5.5	10.0
Medium	14.7	17.1	7.5	13.8
Low	16.2	13.2	7.3	11.8

82

Table 7

Paired t Tests on Verbal, Non-Verbal and Total Scores of the WPPSI

	Pre-Test IQ	Post-Test IQ	Difference	Paired Standard Error	t	Level of Significance
Verbal	82.5	97.9	15.4	2.22	6.91	.001
Non-Verbal	85.3	92.3	7.0	2.45	2.86	.05
Total	82.2	94.8	12.6	1.91	6.59	.001

One of the investigators (Bereiter), who was not present during the conduct of the experiment and thus was not acquainted with the subjects, but who was acquainted with the curriculum, constructed prediction formulas for predicting success or failure for separate items on the Stanford-Binet, over age levels IV through VII, employing item response data from the Achievement Test. Obtained scores on the Achievement Test were consulted in devising the prediction formulas, but not obtained S-B scores. In other words, the predictions were carried out in ignorance of the individual S-B scores. The formulas, instead of making a dichotomous prediction of pass or fail, assigned probabilities of success, ranging from .00 to 1.00. The following are the prediction formulas used:

- Item IV (1), Picture Vocabulary: Statements<sup>1</sup> -- .2 for each item correct in excess of 5.
- Item IV (2), Objects from Memory: No prediction.
- Item IV (3), Opposite Analogies: Polars -- .3 for each correct.
- Item IV (4), Picture Identification: Objects -- .2 for each object for which at least one "why" question was correctly answered.
- Item IV (5), Discrimination of Forms: Shapes -- .2 for each correct.
- Item IV (6), Comprehension II: Instrumental Acts -- .2 for each correct.
- Item IV-6 (1), Aesthetic Comparisons: No prediction.
- Item IV-6 (2), Opposite Analogies I: Polars -- .2 for each correct.
- Item IV-6 (3), Picture Similarities and Differences: Same and Different -- 1.0 if both parts of any item correct; .6 if at least one same and one different correct, but not on same item; .3 if at least one correct; .0 if none correct.

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<sup>1</sup>This and corresponding terms in subsequent items refer to the section of the Achievement Test to which the prediction formula applies. Thus, to estimate the probability that a given subject will pass S-B Item IV (1), find out how many items he got right on the "Statements" section of the Achievement Test and give him .2 point for every one right over five. There are 10 items on the "Statements" section. If a subject got 7 right, that would be two more than five. Counting .2 point for each of these gives an estimated probability of .4 for passing S-B Item IV (1).

- Item IV-6 (4), Materials: Lower of the probabilities obtained by (a) Materials -- .7 for items 2 and 5 correct, .1 for each additional; .3 for 2 or 5 correct, .1 for each additional; .0 for neither 2 nor 5 correct; (b) Objects: .5 if correct material given for house; .2 for each additional object for which material correct; .0 if incorrect material for house.
- Item IV-6 (5), Three Commissions: Function words -- .3 for each.
- Item IV-6 (6), Comprehension III: Instrumental Acts, items 6-10 -- .3 for each correct.
- Item V (1), Picture Completion: Objects: .2 for each object for which at least two correct parts mentioned.
- Item V (2), Folding Triangle: No prediction.
- Item V (3), Definitions: Categories -- .4 for each correct.
- Item V (4), Copying Square: No prediction.
- Item V (5), Picture Similarities and Differences: Same and Different -- .5 for each item with both parts correct.
- Item V (6), Patience: rectangles: No prediction.
- Item VI (1), Vocabulary: Categories -- .3 for each correct.
- Item VI (2), Differences: Same and Different -- .2 for each correct difference.
- Item VI (3), Mutilated Pictures: Objects -- .8 minus .4 for each Absurd Question missed.
- Item VI (4), Number Concepts: Counting -- .3 for each correct.
- Item VI (5), Opposite Analogies II: Polars -- .1 for each correct.
- Item VI (6), Maze: No prediction.
- Item VII (1), Picture Absurdities: Objects -- .1 for each Absurd Question correct plus .1 for each Object with at least one correct response for each part.
- Item VII (2), Similarities: Same and Different -- .2 for each correct similarity.

Item VII (3), Copying Diamond: No prediction.

Item VII (4), Comprehension IV: Instrumental Acts, items, 6-10 -- .2 for each correct.

Item VII (5), Opposite Analogies III: Polars and Categories -- .1 for each correct.

Item VII (6), Five Digits: Memory for Unrelated Words and items 3 and 4 -- .5 for each correct.

It will be noted that no predictions were made for 7 of the items. These are performance items for which no clearly relevant achievement data were available. The construction of these prediction formulas was necessarily carried out intuitively. The relevance of the Achievement Items to the S-B Items is usually obvious, but the particular weights assigned to Achievement Items reflect complex and possibly idiosyncratic judgments. Once the formulas were set down, however, the making of individual predictions from them was a perfectly objective procedure. Accordingly, for each of the 20 subjects, probabilities of success were calculated for each of 23 S-B items.

If the 23 probabilities for a given subject are totaled, they give a prediction of the total number of items out of the 23 that he will get right. The mean predicted score obtained in this way was 16.08 correct, with a standard deviation of 3.44. The actual mean number correct was 13.90, with a standard deviation of 3.46. Thus, there was a mean over-prediction of 2.18 items. This discrepancy is highly significant ( $t = 4.45$ ,  $d.f. = 19$ ), suggesting a consistent over-prediction. Indeed, scores were over-predicted for 17 subjects and under-predicted for only 3. The product-moment correlation between predicted and obtained total scores for the 20 subjects was .80.

If the 20 probabilities for a given item are totaled, they give a prediction of the number of subjects who will pass the item. The predicted and actual numbers passing each item are shown in Table 8. Success of prediction ranged from perfect on item IV-6 (5), where all but one person was assigned a probability of 1.00 of passing the item and all but that one person did, to disastrous on item VI (1), where no one passed although the average assigned probability of passing was .92. In spite of the overall tendency to over-predict success, the formulas actually under-predicted the number passing on as many items as they over-predicted it, the largest errors, however, being ones of over-prediction.

It may be profitable to examine some of the largest errors for what light they may shed on the substance of the study. The failure of any children to pass the level VI vocabulary item, when almost all had been predicted to do so, was the most puzzling

Table 8

Results of Prediction of Success on Stanford-Binet Items  
from Performance on Achievement Test Items

Item	Predicted No. Passing	Actual No. Passing	Error of Prediction	Mean Probability Score	
				Subjects Passing Item	Subjects Failing Item
IV (1) Pict. vocab.	19.0	18	1.0	.94	1.00
(3) Opp. anal. I	17.3	18	-.7	.90	.45
(4) Pict. ident.	17.8	19	-1.2	.92	.40
(5) Discr. forms	19.2	20	-.8	.96	-
(6) Compr. II	19.8	18	1.8	1.00	.90
IV-6(2) Opp. anal. I	14.2	18	-3.8	.73	.50
(3) Pict. s. & d.	16.3	19	-2.7	.81	.30
(4) Materials	8.7	16	-7.3	.54	.00
(5) 3 comms.	19.0	19	.0	1.00	.00
(6) Compr. III	16.3	19	-2.7	.81	.90
V (1) Pict. compl.	16.4	12	4.4	.88	.72
(3) Definitions	19.4	17	2.4	.98	.93
(5) Pict. s. & d.	11.0	16	-5.0	.66	.12
VI (1) Vocabulary	18.3	0	18.3	-	.92
(2) Differences	7.8	3	4.8	.67	.34
(3) Mut. pict.	11.6	15	-3.4	.59	.56
(4) Number Conc.	9.6	4	5.6	.90	.38
(5) Opp. anal. II	7.1	9	-1.9	.41	.31
VII (1) Pict. absurd. I	10.0	2	8.0	.75	.47
(2) Similarities	11.4	6	5.4	.83	.53
(4) Compr. IV	13.4	1	12.3	1.00	.65
(5) Opp. anal. II	14.9	5	9.9	.92	.69
(6) 5 digits	0.0	2	-2.0	.00	.00



result. Note that 17 children passed the Definitions item at level V, which is of the same type. This would suggest that the difficulty was lack of specific vocabulary rather than inability to give definitions. The Achievement Test provided no systematic inventory of vocabulary. The section on which predictions were based was Categories, in which the child is required to provide the class label, given a series of instances of the class. It was reasoned that this was a necessary, though certainly not sufficient constituent of S-B vocabulary test performance. But it would also appear that all children were able to perform this task to a certain degree, since every child got at least two of the five Category items correct. Be that as it may, it is plain that the program was not successful in building general vocabulary up to the point of the other components.

Large over-predictions are also found for the number of children passing absurdities, comprehension, and opposite analogies items at level VII. Similar types of items are passed with under-predicted frequencies at lower age levels, however, suggesting that the difficulty with prediction at level VII is that the subtlety and complexity of the items exceeds that of the related kinds of material dealt with in the program, so that mastery of these easier materials is no assurance of success.

In general, it may be said that prediction for items was not nearly so accurate as prediction for individuals. The product-moment correlation between predicted and actual numbers passing each item was .58, compared to .80 for the correlation between predicted and actual scores for subjects. The total error of prediction is, of course, the same in either case; but in the case of persons the variance of predicted and actual scores was virtually identical whereas in the case of items the variance of predicted item totals was only half that of the variance of actual item totals, indicating that the prediction formulas were more sensitive to individual differences in ability than to differences between items.

As a final test on the efficiency of prediction, the correlation was computed between total number of items correct out of the 23 S-B items under consideration and the total number of correct responses out of the 192 responses recorded for the Achievement Test. The obtained correlation was .79, almost exactly the same as that obtained from the formula-derived estimates. Thus, as far as predicting an individual's overall performance on the S-B is concerned, his overall undifferentiated performance on the Achievement Test is as good a predictor as the sum of the specific item-by-item predictions. This is even more tellingly demonstrated if the 192 achievement items are subdivided into the 124 which at some point or other entered into the item-by-item prediction formulas, and could thus be judged to be more relevant to Binet performance, and the 68 items which were not so used and could accordingly be judged less relevant. Scores on the "relevant" achievement items

were found to correlate .77 with Binet performance and scores on the "less relevant" items were found to correlate .76.

### CONCLUSIONS

If the present study has accomplished nothing else, it should at least help to silence those inevitable critics who sneer "Teaching for the Test" every time they hear a report of substantial IQ gains. Here for once, was a program which was avowedly devoted in toto to "teaching for the test" -- not in the trivial sense of drilling children on test-like items, but in the sense of attempting to provide training in the full range of conceptual content and skills which the test was believed to draw upon. Results indicated that:

1. The "Binet curriculum" was not more successful in raising Binet IQs than an academically-oriented program that made no direct attempt to teach Binet-related material and that was in largest part devoted to the teaching of reading and arithmetic skills which could be expected to have virtually no transfer to Binet items.
2. The "Binet curriculum" was not any more successful at raising IQ scores on the test toward which it was directed than it was in raising them on another test (the WPPSI), the content of which was unknown to teachers and curriculum writers.
3. Although achievement in the "Binet curriculum" proved to be highly predictive of post-test performance on the Stanford-Binet, the relationship seemed to be between overall performance on one and overall performance on the other rather than being a matter of specific connections between items of curriculum content and test items.

These results would suggest that "teaching for the test" is not a very adequate or meaningful way of accounting for the IQ gains obtained in other studies. It does not even seem to be a good way of accounting for the gains in this one. It is possible, of course, that some other way of generating a curriculum from the Binet test or some other way of teaching it would produce more positive results. Anyone who thinks so is welcome to try.

The results are much less informative on the question of what does account for large IQ gains. Motivational and test-wisness effects could easily account for the 6-point gain obtained in the first two months of this study, as they may well account for gains of this magnitude in all other compensatory preschool studies (Zigler, 1968; Jensen, 1969). Gains continued, however, throughout the remaining six months. In light of the negative results concerning curriculum specificity, it seems reasonable for the present to entertain the possibility that these additional

gains reflect the accelerated learning of basic thinking skills. It is also possible that these basic skills are taught equally well by concentrating upon academic subjects like reading and arithmetic rather than upon Binet-related material, as suggested by results with the academically-oriented preschool program. If this is true, then an academically-oriented program would be preferable because of its more direct contribution to scholastic achievement.

#### SUMMARY

A curriculum was devised by working backward from Stanford-Binet items to specification of a universe of content for which the Stanford-Binet could serve as a content-valid achievement test. It was reasoned that this curriculum should correspond in effect to the hypothetical "hidden curriculum" of the middle-class home. The curriculum was tested on 20 four-year-old disadvantaged children, selected according to the same criteria as other children in the current series of investigations. The program was conducted for eight months, two hours daily, with a teacher-pupil ration of one-to-five. The Stanford-Binet was administered four times during the course of the experiment, curriculum content and procedures being modified in the light of results. The Wechsler Preschool and Primary Scale of Intelligence (WPPSI) was administered at the beginning and end as a control measure for non-specific effects on IQ. The content of this test was not known to curriculum writers and teachers and pre-test scores were not made known to them either. An Achievement Test of 192 items was administered at the end of the program, testing the amount learned in the specific areas touched on in the "Binet curriculum" -- since these areas did not correspond to Binet items but rather to the organization of the curriculum.

Total IQ gain was 13 points on the Stanford-Binet -- no better than that achieved previously with the academically-oriented program which made no effort to teach Binet-related content. Gain on the WPPSI turned out to be of the same magnitude, thus indicating that the gains were in no wise test-specific. Prediction formulas were constructed for deriving from an individual's performance on relevant sections of the Achievement Test, estimates of the probability of his passing specific Stanford-Binet items. Predictions were made for 23 items in the age-level range of IV through VII. Actual and predicted numbers correct, for the 20 subjects in the study, correlated .80. Actual and predicted item difficulties for the 23 items, however, correlated only .58. It was furthermore found that total number of items correct on the Achievement Test correlated as well with Binet performance as did the formula-derived estimate, and performance on Achievement Test items judged most relevant to Binet performance yielded no better correlation with Binet performance than those not judged relevant to it.

These results were taken as indicating that there was not a close relationship between curriculum content and intelligence test performance, leaving open the possibility that what accounted for the non-trivial part of the IQ gain, in this as well as in the other studies in this series, might have been the accelerated acquisition of certain basic thinking skills.

# A Model for the Interpretation of IQ Changes<sup>1</sup>

Carl Bereiter

## PROBLEM

Changes in IQ associated with compensatory education programs have been variously interpreted as transitory effects on the expression of genetically determined intelligence (Jensen, 1969), as the result of motivational effects on test-taking behavior (Zigler, 1968), or as indices of achievement in a broad area of conceptual learning (see "Achievement Components of Stanford-Binet Performance" in this report). Very likely a number of factors are involved, some of which may eventually be isolated experimentally. In the meantime, one way to test possible interpretations is to attempt to derive from the interpretations formal models that can be tested against actual data on IQ changes before, during, and after educational treatment. The gross general finding that IQs tend to rise during special educational treatment and to decline toward their original levels after treatment ceases could be accounted for equally well by any number of hypotheses. But perhaps not all hypotheses can account equally well for the actual observed magnitudes of gains and losses.

## OBJECTIVE

The objective of this study was to develop a simple mathematical model that could account for the IQ changes observed in the preschool experiments carried out in the present project, using parameters that were interpretable in terms of plausible or current hypotheses concerning the nature of IQ changes. It was hoped that this effort might provide suggestive evidence as to the validity of such hypotheses and furthermore provide a useful conceptual framework for the examination and evaluation of these and other experimental results.

## METHOD

The method was to begin with the simplest and most parsimonious model that could account for the gross pattern of results and then modify it by the introduction of additional theoretically-derived assumptions until the model gave a good fit to actual data. The

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<sup>1</sup>In the proposal this project was titled, "Analysis of the Nature of IQ Gains."

model would then be tested against available data from other studies in order to check its generalizability.

For simplicity, it was decided to develop the model only for error-free data, so that random fluctuations and regression to the population mean would not be taken into account. In practice, this should mean that the model ought to fit group mean scores but not individual scores, on the assumption that mean scores based on representative groups of reasonable size ought to be essentially free of measurement and sampling error. Since the immediate purpose of the model would be for the interpretation of group trends, this did not seem to be a serious limitation. It should be noted, however, that a model developed on the assumption of error-free data cannot be expected to fit group means where the groups have been selected on the basis of extreme scores on IQ test itself so that regression to the mean will figure as a major factor in IQ changes. Several major studies have used groups thus selected (Weikart, 1967; Hodges, McCandless, Spicker, 1967). Although the internal validity of these studies may not be impaired by the method of subject selection, their external validity necessarily suffers and the construction of a model that would permit comparison of their results with other results would present forbidding difficulties.

Two types of model. One interpretation of the IQ score is as an index of relative brightness, that may fluctuate in response to various influences but tends to hover about a fixed value for a given individual (Wechsler, 1944, p. 24). Following this interpretation, a model of IQ changes would take account of the duration, strength, and interaction of various factors hypothesized to have positive or negative effect on intellectual efficiency or test performance. To have any strength, such a model would have to make use of independent measures of the hypothesized factors and relate these to IQ score changes.

Another interpretation of the IQ score is as an index of rate of intellectual growth (Kuhlmann, 1939), based on a comparison of the level of intellectual growth actually achieved (mental age) with the amount normally expected (chronological age). According to this interpretation, IQ changes from one occasion to another are to be explained in terms of factors that increase or decrease the amount of intellectual growth taking place over the intervening period. Models based on such an interpretation are obviously applicable only to developing children. This kind of model has been used to good effect by Bloom (1964) in accounting for developmental trends toward stability in IQ score. As applied to longitudinal data it is an intrinsically stronger model than an "index of brightness" model, since it is based on cumulative and irreversible effects rather than fluctuating variables. It would thus seem a priori to be the preferred type of model to use experimentally in studying IQ changes induced in young children.

Simple form of the mental age increments model. Although the Stanford-Binet IQ, like most other IQ scores, now represents a standardized score of fixed mean and standard deviation, it is more appropriate in working with a mental age increments model to treat IQs in the old Stanford-Binet manner as a ratio of mental age to chronological age (Terman and Merrill, 1937). Numerically, the difference between standardized and ratio IQs is not large enough to be of much concern in the present context. Accordingly, an IQ of 90 for a child of 4, say, is taken to indicate that the child has a mental age (MA) of  $.90 \times 4$  or 3.60 and that on the average his yearly increment in MA has been .90 year. Assuming stable conditions, we expect the child to continue to gain .90 year of MA for each additional year of life, up to maturity, so that his IQ will remain at 90. Now if, for a certain period of time, conditions change (for instance, through his receiving special compensatory education) so that during that period he gains more than the usual .90 year of MA per year, his IQ will rise above 90. If conditions then revert to what was "normal" for the child, he might then, according to the most parsimonious assumptions, be expected to go back to his previous rate of intellectual growth, .90 year of MA per year. His IQ would then decline toward its original level of 90, although in principle it would never quite get back to it, because the extra-sized MA increments gained during special treatment would not be lost; they would merely count for progressively less when added in with all the other "normal" increments.

Table 1 presents hypothetical data illustrating the simple model of IQ changes described above, for a child with an IQ of 90 who, beginning at the age of 4, is given two years of compensatory education. "Compensatory" is here taken literally as education which alters conditions sufficiently to produce mental growth at the normal rate of one year of MA per year. This produces a rise in IQ to 93.3. Following cessation of special treatment, the yearly MA increment reduces to .9 and IQ declines, but very gradually, so that by the age of 15 it is still at 91.3.

Table 1

Hypothetical Data Illustrating IQ Changes  
Following a Simple MA Increments Model

CA	MA	IQ	ΔMA	
3	2.7	90.0	.9	
4	3.6	92.0	1.0	} Period of Compensatory Treatment
5	4.6	92.0	1.0	
6	5.6	93.3	.9	
7	6.5	92.9	.9	
8	7.4	92.5	.9	
9	8.3	92.2	.9	
10	9.2	92.0	.9	
15	13.7	91.3	.9	

This simple model accounts for the gross pattern of rise and fall in IQ scores during and after special educational intervention. It also predicts that gains will be greater the younger the age of intervention, the lower the initial IQ, the more "enriched" the treatment, and the longer treatment is continued. However, the model clearly does not fit the actual magnitude of change. In the hypothetical example the gains are too small and the rate of decline is far too gradual to fit actual data. Indeed, an examination of mental age increments in the longitudinal data obtained in the present program of research immediately points up a fundamental failing of the simple incremental model. According to the simple model, the yearly mental age increment would never fall below what it had been before treatment, unless the children were to encounter conditions less favorable than those they would normally be expected to encounter. But in the present study, children who prior to treatment had been gaining on the average .96 year of MA per year were found, during the year immediately following cessation of special treatment, to gain considerably less than this -- .48 year in one experimental group and .78 in the other. Clearly, some additional assumptions are needed to account for such discrepancies.

Elaborated form of the mental age increments model. At a minimum, it would appear that a rational model of MA increments would have to include assumptions or estimates with respect to each of the following:

1. Expected IQ ( $IQ^E$ ). For a given group of children in a stable social condition, it ought to be possible to arrive at an estimated IQ score that is normal for them, that tends to be maintained in the absence of notable changes for better or worse, and toward which individual IQ scores tend to regress.

2. Environmental effectiveness (E). This refers to the combined effectiveness of environmental influences working on the children to promote mental age gain. It refers to home as well as school influences, and refers only to effectiveness with respect to MA gain, not to other aspects of development. Moreover, it refers to effectiveness for the children in question and not to effectiveness in any universal sense. If we set  $E = 1$  for those environmental conditions which maintain MA growth at the level indicated by  $IQ^E$ , then environmental conditions with  $E > 1$  would produce rising IQs, while conditions with  $E < 1$  would produce the opposite effects. Judging from data in the Coleman et al report (1966), for a variety of different student subpopulations in a variety of areas in America,  $E = 1$ . That is, there is little indication in any of the subsamples of upward or downward trends in standard score on mental tests. This does not necessarily mean, however, that all environments are effectively equal. It could merely be that the environment, including the school environment, is in all cases attuned to maintaining things as they are with



respect to intelligence, so that an environment of  $E = 1$  for the children who are normally in it might have  $E$  greater or less than 1 for other children if they were transferred into it. Studies of school integration have in fact provided evidence that this is the case (U.S. Commission on Human Rights, 1967; Nichols, 1968).

3. Effect of IQ change (B). If, in response to environmental effects, IQ is increased or decreased from its expected level,  $IQ^E$ , it may be that this alteration in IQ will itself have some effect on future MA increments. Thus, if children of  $IQ^E = 90$  undergo a 10 point increase in IQ, it might be expected that some or all of this increase would be reflected in increased ability to learn from the environment, increased potential for further growth, or what have you, so that in the succeeding year their expected gain in MA would be not .90 year but something more in the direction of the 1.00 year that would be predicted from their obtained IQ. The coefficient,  $B$ , may be regarded as a weighting factor to be applied to deviations from  $IQ^E$ , indicating their effect on subsequent MA increments.  $B = 0$  would imply that IQ changes reflect only transitory effects on amount learned (Jensen, 1969) and have no effect on how much will be learned in the future, whereas  $B = 1$  would imply full validity to IQ gains so that if IQs were raised to 100 children would be expected to function like average children regardless of their former or expected IQ levels.  $B$ , could of course, take values between zero and 1 and, theoretically, even greater than 1; thus it could be interpreted loosely as representing what proportion of observed IQ change "really counts."

4. Credit drawn against future MA increments (C). If, during one year, a child gains more than his expected increment in MA, this could be taken to mean that he has mastered certain tasks, learned certain things, that he would not normally have learned until a later year. Having already gotten credit for them, he will not get any further credit for them in later years, and so it is possible that his MA increment in a later year will be less than it would otherwise have been. To take a concrete example, the child who at age four has been involved in a lot of work on counting may at age five pass the "Number Concepts" item on the Stanford-Binet and receive his two-months credit in MA for it, thus receiving a boost in IQ over his less-favored peers. But at age 7, when his peers are able to pass the item for the first time, the child in question would have to pass some additional item which his peers cannot in order to receive the same MA increment as they. There is nothing in his early mastery of counting that enables him to pass some other item at age 7, and so he has a lesser MA increment and loses the IQ advantage over his peers. The coefficient,  $C$ , may be taken as an index of the general extent to which acceleration or deceleration of learning has this self-correcting tendency. Its magnitude could depend on characteristics of the children, of the environment, or of the test. That is, with respect to the children there could be built-in restrictions

on what can be learned when, with respect to the environment there might be restrictions on what the children have an opportunity to learn when, and with respect to the test the relations among items at different levels of difficulty may influence the extent to which early mastery of items at one level is or is not conducive to early mastery of items at a higher level.

5. Initial effect (P). Jensen (1969), Zigler (1968) and Bereiter and Engelmann (1966) have all remarked on the appearance of a 6 to 8 point IQ gain for disadvantaged children after such brief exposure to preschool education that it could not possibly represent mental growth in any usual sense. In the study of "Achievement Components of Stanford-Binet Performance," included in this report, a 6-point gain was observed after two months of schooling. Without specifying the nature of this initial effect, we may nevertheless represent it in the model as a special increment occurring with the onset of schooling and independent of other factors.

The following is an algebraic model for predicting MA increments derived from the lines of reasoning set forth in the five points above:

$$(1) \Delta_{MA_t} = E_t \left[ \frac{IQ^E + B (IQ_{t-1} - IQ^E)}{100} \right] - C (MA_{t-1} - \frac{IQ^E}{100} \cdot CA_{t-1}) + P$$

For simplicity it is assumed that the elapsed time between  $t-1$  and  $t$  (the intervals between which the MA increment occurs) is one year. MA and CA are expressed in years, not months. Adjustment for intervals other than one year involves merely multiplying the first two terms on the right by the actual time interval. Environmental effectiveness (E) is taken to act as a multiplier on growth expected from IQ score; B acts as a multiplier on the difference between obtained IQ on the previous testing and expected IQ; C acts as a multiplier on the difference between obtained MA on the previous occasion and the MA that would be expected on the basis of CA and expected IQ. P is an absolute increment in MA, presumably with a value of zero except for the first period of compensatory education. This model reduces to the simple model used to generate the data in Table 1 by setting B, C, and P all at zero and  $IQ^E$  at 100, thus rendering variations in MA increment entirely dependent on variations in E.

Applying this model to group mean scores requires the assumption that mean IQ is proportional to mean MA divided by mean CA. This assumption is generally invalid, of course, but it is valid in the case where all individuals have the same CA. Since this is approximately the case with the groups of subjects to be considered, the CA range being less than one year, the assumption is made for computational convenience.

## FINDINGS

The main empirical concern of this study was with fitting the model to Stanford-Binet IQ scores of the three preschool groups on which first-grade follow-up data are available. (See Volume II of this report, "A Follow-Up of Three of the Five Preschool Interventions: Evaluations Over Three Years.") Since the model calls for the estimation of 5 parameters and there are only 4 data points to fit for each group, it would be a trivial exercise to fit the model to the data without the addition of some independent constraints. Since the groups were presumably randomly equivalent, it appears reasonable to require that  $IQ^E$ , B, C, and P be the same for all groups, on the assumption that they reflect subject and situational characteristics that are standard throughout. On the same assumption, it may be required that  $IQ^E$ , B, and C remain constant over occasions. Finally, we may derive an independent estimate of P, for the occasion when it is not zero, from the study, "Achievement Components of Stanford-Binet Performance," which, as noted previously, was in agreement with a number of other studies in finding an initial IQ gain of about 6 points early in treatment. Translated into MA increments for a CA of 5 and an IQ of 90, this gives  $P = .3$ . Given these requirements, the only factor that can vary from group to group is E, and that only for the periods during which groups are receiving special treatment (otherwise  $E = 1.0$ , following evidence presented in the preceding section).

Taking the initial IQ scores as given, there are 3 additional scores for each group to be estimated, or 9 in all. If  $IQ^E$  is either estimated from the initial scores or independently of the data, that leaves B, C, and five different values of  $E_t$  free for adjustment in fitting the model to the data. Thus there are just two fewer coefficients than there are data points to be fitted. What this amounts to in practice is that there is no problem in fitting the model to the treatment-produced IQ gains for all three groups and to the post-treatment losses for one of the groups, but it remains to be seen whether any coefficients that do this will fit the post-treatment losses of the other two groups as well.

As a first attempt at fitting the model to data,  $IQ^E$  was set at 96, the approximate pre-test mean of the combined groups. Trial values of B and C were set at .2 and .4 respectively. Values for  $E_t$  were set at F except during periods of experimental treatment. Values of  $E_t$  for experimental periods were determined analytically by solving equation (1) for them. This fitting led to over-prediction of the drop-off in IQ following termination of treatment, particularly for the Traditional group.

Alternatively,  $IQ^E$  was set at 100 and, after some trial and error, B and C were both set at .4. Results of this fitting are shown in Table 2. The maximum error of estimate is .10 year of MA and a corresponding 1.46 points of IQ, for the final test scores

Table 2

Actual and Predicted Mean MAs and IQs  
for Three Preschool Groups

+	CA	MA	IQ(R)	E	$\hat{\Delta}MA$	$\hat{MA}$	$\hat{IQ}$	$\hat{IQ}-IQ(R)$
Amelioration Group (N=24)								
0	4.34	4.22	97.24					
1	5.00	5.47	109.40	1.41	1.25	5.47	109.40	.00
2	6.02	6.49	107.81	1.15	1.02	6.49	107.81	.00
3	6.93	7.27	104.91	1.00	.77	7.26	104.76	-.15
Direct Verbal Group (N=10)								
0	4.26	4.16	97.65					
1	4.88	5.36	109.84	1.42	1.20	5.36	109.84	.00
2	5.92	7.00	118.24	1.70	1.64	7.00	118.24	.00
3	6.83	7.48	109.52	1.00	.58	7.58	110.98	1.46
Traditional Group (N=25)								
0	4.37	4.17	95.42					
1	5.03	5.16	102.58	1.00	1.00	5.17	102.78	.20
2	6.05	6.06	100.17	1.00	.97	6.14	101.49	1.32
3	6.95	7.02	101.01	1.00	.87	7.01	100.87	-.14

of the Direct Verbal group. It should be noted that the IQs in Table 2 are ratio IQs and thus do not agree precisely with the standard-score IQs cited in other sections of the report.

For validation, the model was also applied to several other sets of data. Data from the original Direct Verbal pilot group, which spanned four years instead of three spanned by the groups referred to above, could also be fitted accurately by the model, retaining the same values of B and C and with Effectiveness values of 1.3 and 1.4 for the first and second years of treatment. However, it was necessary to assign that group an Expected IQ of 94, instead of 100. This is perhaps not so surprising, considering that they were selected according to a criterion which included having siblings with school problems. The model could also be fitted to the data of Long (1966) by assigning an Effectiveness of 1.0 to the treatment, which is in accord with the failure to find significant treatment effects in comparison with a control group. Data supplied privately by Robert L. Spaulding from the Durham Educational Improvement Project were especially interesting because they provided twice-yearly test data, from testings in the fall and spring. A good fit could again be made to the data, using the same values of B and C, yielding high Effectiveness values for the winter periods and Effectiveness values of less than one for the summer periods when school was not in session. This, again, is reasonable, because the hypothetical Effectiveness of 1.0 is intended as an average over time in school and out, but in the case of semi-annual testing this average would not be expected to hold.

Finally, the model was used to extrapolate the trends indicated in Table 2 -- in other words, to answer the question of what may be expected to happen to the IQ scores of those groups in the future, assuming the model to be valid. According to the model, the Traditional group had already by the end of first grade returned to its expected IQ level and is therefore expected to show no further change of significance. The model predicts that the Amelioration group will decline to within a point of its expected level in three more years and the Direct Verbal group in five more years.

#### DISCUSSION

It would be foolhardy to claim that the model stands validated on the basis of the tests to which it has so far been subjected. However, if one accepts the plausibility of a mental age increments model, it would appear that the findings so far are enough to indicate that a simpler version of this model will not be adequate. Without some notion of an expected IQ level, there is no reason why IQs, once raised, should ever decline, considering the range of educational environments which seem capable of maintaining IQs at constant levels. Without some factor corresponding to the coefficient B in our model, representing a forward-reaching benefit from induced IQ gains, it would be necessary to posit an altogether unreasonable Effectiveness value for the second year of treatment

in the Direct Verbal group (its derived value of 1.7 is already suspiciously high, if this is taken to mean that the program was 1.7 times as effective as a normal kindergarten in promoting mental age growth). Without some factor corresponding to coefficient C in our model, representing credit drawn against future MA gains, the incremental model would be incapable of accounting for the sharp post-treatment IQ losses that are commonly found, without positing some unlikely violent negative reaction produced in the children by their change from the compensatory to the normal school program.

Accordingly, taking the model as at least plausible if not necessarily accurate in the values it assigns to various coefficients, we may consider what contribution if any, it appears to make to the interpretation of IQ changes. If the Effectiveness coefficient can be interpreted literally, which it is presumed in the model that it should be, then structured programs like the two experimental programs involved in the current series of studies and the Durham EIP program are about half again as effective as a traditional enrichment program in promoting mental age growth, while traditional programs are not appreciably more effective than the normal school curriculum. IQ gains for the Traditional group, it will be noted in Table 2, are accounted for by the model by assigning the pre-school treatment an Effectiveness of 1.00, the same as regular schooling. The gain is attributable to (1) the .3 year gain in MA due to factor P and (2) the fact that the children were initially scoring below their expected IQ value of 100.

The fact that an expected IQ ( $IQ^E$ ) of 100 fit the data better than an  $IQ^E$  of 96, based on their pretreatment scores, is of considerable importance in interpretation of further follow-up results on the children in question. An  $IQ^E$  of 100 implies that their IQs would have risen to a mean of 100 under normal school treatment and that they will not fall back below 100. If IQs do decline below 100, of course, this will indicate a defect in the model. Should they level off at 100, one would normally be tempted to claim some credit for the preschool programs in producing a lasting improvement. According to the model, however, no such credit would be owing, since IQs would have been expected to level off at that point without special treatment.

It is more difficult to assign any interpretation to the obtained values of coefficients B and C. At a crude surmise, they would suggest that something less than half of experimentally induced IQ gain carries over into increased potential for MA growth and something less than half of experimentally increased MA increment is subsequently offset by decreased MA increments.

If the present model or some modification of it should be found to provide an adequate fit to longitudinal IQ data in various educational experiments, it would have important advantages in making comparisons of results.  $IQ^E$  would be a more significant basis for

judging the comparability of groups than would pretest IQ alone. E would provide a basic index of program effectiveness, theoretically independent of pupil characteristics or time of intervention. The model applies, of course, only to the effectiveness of programs in promoting tested MA growth, and programs equally effective in this respect could differ considerably in other kinds of effectiveness.

#### SUMMARY

A mathematical model of IQ changes was developed and tested on data from the current series of preschool experiments as well as on data from other studies. IQ gains during treatment and losses following termination of treatment are treated as a function of expected IQ for the group, effectiveness of treatment, the extent to which induced IQ gains carry forward into increased potential for future growth, and the extent to which induced mental age increments are offset by subsequent reduced increments.

Verbal and Nonverbal Factors in Cultural Deprivation:  
Evidence from Children with Sensory Handicaps

Carl Bereiter

PROBLEM

This study is a follow-up to an earlier study of the same title, an unpublished report of which was included as an appendix to the project proposal. The original study proposed that deaf and blind children might constitute "natural experiments" in the relative importance of language and sensory experience for cognitive growth, since each group is severely deprived of one kind of experience but not the other. In addition to citing well-known evidence on the superior scholastic attainment of blind as compared to deaf children, the original study cited three investigations (Myklebust, 1960; Quigley & Frisina, 1963; Templin, 1950) which provided indirect evidence that the usual correlation between socio-economic status and IQ did not obtain among the deaf. This conclusion was inferred from the failure of these investigators to find mean IQ differences between residential and day school populations which differed substantially in SES of parents. If the IQ-SES correlation were severely attenuated in deaf children, it was reasoned, this would suggest that language was the principle medium through which SES-related differences in intelligence were transmitted.

More direct empirical evidence was obtained by correlating IQ with mid-parent educational level for 219 institutionalized deaf children. The obtained correlation of .23 was lower than that for hearing children reared apart from their natural parents, suggesting that the correlation could be accounted for entirely by heredity and reflected no SES influence on IQ scores. An alternate hypothesis, that the attenuated correlation might be due to a high incidence of brain damage unassociated either with heredity or SES, was rejected because the distribution of IQs in the sample fitted the normal IQ distribution almost perfectly.

Applying the same reasoning to the blind, it would be predicted that blind children, being even more dependent than normal children on language as a learning medium, should have IQ scores that are correlated to an exceptionally high degree with parent educational level. The present study was carried out to test this additional inference.

METHOD

Using data on file at two different residential schools for the blind and partially sighted, IQ scores and mid-parent educational



levels were obtained for the five groups indicated in Table 1. "Discharged blind" refers to students in the Illinois residential school who had been discharged during the preceding five years. As had been the case earlier with data on the deaf, no effort was made to screen out individuals suspected of brain damage, since in almost all cases the sensory handicaps resulted from central impairment, and so to rule out the possibility of further organic impairment was a virtual impossibility. The only restriction was that for a given sample, all individuals should have IQ scores on the same test.

## RESULTS

The last column in Table 1 reports the correlations between IQ of child and mid-parent educational level for the five visually handicapped groups as well as for the deaf group investigated previously. It will be observed that the correlations for the two institutionalized blind groups are almost identical to those for the institutionalized deaf group, while that for the discharged blind group is somewhat higher and those for the partially-sighted groups are lower. In fact, however, none of the correlations are statistically significantly different from the correlation obtained for the deaf (the largest difference giving a  $\pm$  of only 1.4).

IQs for the visually handicapped groups tend to be lower than those of the deaf group and also to have a greater standard deviation. As the column in Table 1 marked "% 70" indicates, the visually handicapped groups have exceptionally large percentages of children with IQs below 70, especially the partially-sighted groups, where over a fifth of the children have IQs below 70. These high percentages would suggest a high incidence of the kinds of organic or emotional impairments that would not be found correlated with parent intelligence or educational level.

## CONCLUSION

The data on the blind clearly do not support the hypothesis that blind children's IQs will be highly correlated with parent SES. The fact that the correlations between child IQ and parent educational status come out to be about the same for blind and deaf children and in both cases substantially lower than those for normal children, casts doubt upon the deaf data and the interpretation that was earlier put upon them. The most warranted conclusion of this study would appear to be that children with sensory handicaps are not good natural experiments for the investigation of the relative importance of various experiential factors in mental growth because of the unknown likelihood of direct organic impairment of intellectual functioning.

Table 1

Comparative Data on Deaf, Blind,  
and  
Partially Sighted Children

Group	N	IQ			Mid-Parent Educ.		
		M	S.D.	% 70	M	S.D.	r
Institutionalized Deaf	219	99.0	15.5	3.7	11.6	2.5	.23
Institutionalized Blind							
Missouri	73	93.2	17.7	10.9	10.4	2.1	.24
Illinois	62	91.6	17.2	8.1	10.3	2.0	.27
Discharged Blind	36	96.4	20.6	8.3	10.7	2.5	.46
Partially Sighted							
Missouri	49	86.7	19.6	22.4	10.6	2.7	.15
Illinois	14	89.3	19.0	21.7	11.8	2.1	-.02

#### SUMMARY

A previous study had found a very low correlation between child IQ and parent educational level among deaf children, leading to the inference that language was the primary medium through which social-class related differences in intelligence were transmitted. The present study was conducted as a further check on this hypothesis, examining comparable correlations for visually-handicapped children. The expectation was that these children, being more than normally dependent on the language medium, would show unusually high correlations of IQ with parental education level. Correlations in five groups revealed no significant differences from the correlation obtained among the deaf. The appearance of high percentages of children with IQs below 70 suggested that organic intellectual impairment may have been responsible for the low correlations. It was concluded that for this reason, children with sensory handicaps were not suitable subjects for testing hypotheses concerning experiential factors in mental growth.

The Performance of Advantaged and Disadvantaged  
Preschool Children on Tests of Sound Pattern  
and Speech Sound Auditory Discrimination

Girvin E. Kirk<sup>1</sup> and Carl Bereiter

Deutsch (1964) has postulated that disadvantaged children raised in a crowded, noisy urban environment are not only deficient in their discrimination and recognition of speech sounds, but are relatively inattentive to other auditory stimuli as well. Furthermore, she suggests that this deficiency may be caused by an organic or functional defect in that part of the child's brain receiving sound signals. Raph (1965) in her review of sensory-motor research conducted with disadvantaged children concluded from her inspection of the Deutsch (1964) study that educators should consider non auditory means of instruction when teaching subject matter skills, such as reading.

It is surprising to find such acceptance given to the notion that disadvantaged children have a generalized defect in auditory discrimination when past auditory discrimination studies with young disadvantaged children have been limited to the use of auditory discrimination instruments composed chiefly of speech sound stimuli as opposed to non-speech sound pattern stimuli. Without comparative research on speech sound and non-speech sound pattern auditory discrimination, it is difficult to evaluate either the Deutsch or the Raph position or to come to any conclusion regarding the developmental pattern of disadvantaged children in acquiring specific auditory discrimination skills.

PROBLEM

Two issues are investigated in this study. The first issue is concerned with a general versus a specific auditory or discrimination defect: Do disadvantaged children have the same or more difficulty on a test with speech sound discrimination than on a test of non-speech sound pattern discrimination? The second question focuses on the pattern of speech sound auditory discrimination test performance: Do disadvantaged children have the same difficulty in discriminating speech sound contrasts when the speech sound change occurs in the final position of words than when it occurs in the beginning position?

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It was hypothesized:

1. That the advantaged group would show significantly superior performance ( $p < .05$ ) on the Speech Sound Discrimination Test compared to the Sound Pattern Discrimination Test. The reverse was predicted for the disadvantaged group.
2. The performance by the disadvantaged group on the Speech Sound Discrimination Test should reveal a significantly greater number of correct responses for the speech sound contrasts which occur in the beginning rather than in the final word position. No significant differences were expected for the advantaged group between the number of correct responses for speech sound contrasts occurring in the beginning and in final word positions.

## PROCEDURES

### Selection of the Sample

Fifteen disadvantaged Negro children were randomly selected from the class lists of two preschool control classes established for an Institute for Research on Exceptional Children (IREC) project at the University of Illinois. Fifteen advantaged white children were randomly selected from a class list of a preschool class established in another IREC research project. The mean chronological age of the advantaged and the disadvantaged group was 58 months with an age range of 54 months to 65 months.

### Measuring Instruments

The Preschool Auditory Discrimination Test was constructed for this study and includes two subtests: a Sound Pattern Discrimination Test and a Speech Sound Discrimination Test (see Appendix D).

The Sound Pattern Discrimination Test was designed to measure the ability of the preschool child to perceive differences between nonverbal sound patterns where the task is to discriminate between sounds of the same basic character (e.g.) sounds of water pouring from the same or different containers. Sixty sound pair contrasts were employed in the test. Each sound pair contrast was administered individually to each subject by means of pretaped cards on the Bell and Howell Language Master Machine.

The Speech Sound Discrimination Test was designed to measure the preschool child's ability to discriminate speech sound contrasts which occur in the beginning and in the final word position (e.g., gruel tool and jewel vs. webs, weds, and wedge). Twenty of the word pair contrasts were the same while forty were different. Each word pair contrast was prerecorded on a Bell and Howell Language Master card.

## Test Procedures

Both the Sound Pattern Discrimination Test and the Speech Sound Discrimination Test were administered individually to the advantaged and to the disadvantaged preschool children by the investigator who had had past clinical and research testing experience with auditory tests. The total battery required a maximum of forty minutes for administration and was divided into two equal segments. The Sound Pattern Discrimination Test was administered first, followed by the Speech Sound Discrimination Test.

The task presented to the child for each item was to identify which of three Language Master cards contained the same sound as a given model card. Early discrimination tasks were given as pre-training to insure that the child grasped the intent of the task. Cards were presented in pairs, the model card randomly preceded or followed by one of the comparison cards.

The directions for both tests were specifically devised for preschool children to avoid any requirement on the part of the child to make a vocal same or different statement in response to a test item. Instead, the child was allowed to give a "yes" or "no" test response by either saying "yes" or nodding his head to signify "yes" when he thought the sound pair contrasts were the same or to say "no" or shake his head to signify "no" when he thought the sound pair contrasts were not the same. This test procedure was devised for two reasons: to avoid the use of the concept "different" in the test directions and to give the disadvantaged child who could not or would not talk an equal opportunity to give a test response.

## RESULTS AND DISCUSSION

The results of the data analysis of the fifteen advantaged and fifteen disadvantaged children are presented in the following sequence:

1. A chi square test for observed difference in the performance on the Sound Pattern Discrimination Test and the Speech Sound Discrimination Test.
2. The "t" test results on six tests of significance for various auditory discrimination tasks.

In a comparison of the advantaged with the disadvantaged preschool children on the differences on the Sound Pattern Discrimination Test and the Speech Sound Discrimination Test, the members of each group were tabulated in a 2x2 table according to whether the child did better on one or the other test. The chi square test of significance with correction for continuity was applied for each group.

When the chi square test was applied to these observed differences in number of superior sound pattern auditory discrimination or speech sound auditory discrimination performances, significant differences in the predicted direction were found in the advantaged and disadvantaged groups ( $p > .01$ ); i.e., the advantaged children were found to do better on the Speech Sound Discrimination Test than on the Sound Pattern Discrimination Test and the reverse was true of the disadvantaged children. Therefore, the first hypothesis was supported.

An analysis of differences between the means of the two groups was conducted by a "t" test on the differences between the two groups on six tests of significance for six auditory discrimination tasks: (a) speech sound discrimination, (b) sound pattern discrimination, (c) beginning sound changes in the speech sound discrimination test, (d) final sound changes in the speech sound discrimination test, (e) sound pattern auditory discrimination minus speech sound discrimination performance and (f) beginning minus final speech sound changes in the Speech Sound Discrimination Test.

All of the differences between the two groups were significant ( $p > .05$ ). It is noteworthy that when the "t" test was applied to the auditory discrimination tasks within the speech sound discrimination stimuli, i.e., beginning minus final speech sound changes, significantly greater differences were found ( $p > .001$ ) for the disadvantaged than for the advantaged preschool children indicating a greater discrepancy for the disadvantaged children between their ability to perceive differences occurring in the beginning and in the final word position. Therefore, the second hypothesis that the differences within the speech sound discrimination tasks between the beginning speech sound changes and the final speech sound changes would be greater for the advantaged than for the disadvantaged preschool children was supported.

The disadvantaged children responded, correctly to 80 per cent of the speech sound contrasts involving beginning consonants, but only 37 per cent of those involving final consonants.

This study suggests that the auditory discrimination difficulties of disadvantaged Negro preschool children are largely confined to words and, among words, to those differing in the final consonant. It would seem more plausible and parsimonious to explain this difficulty on the basis of dialect characteristics rather than on the basis of defective intellectual functioning. This conclusion would favor remedial efforts dealing directly with language problems rather than ones involving generalized discrimination training.

## SUMMARY

Fifteen disadvantaged Negro children of kindergarten age were compared with fifteen advantaged white children of the same age on their ability to discriminate speech and non-speech sounds. The test task called for children to identify which of three sound cards bore the same sound as a model card. Each choice card was paired separately with the model card and the child indicated whether it was or was not the matching one. Advantaged children were found to do better on discrimination of speech sounds than non-speech sounds whereas the reverse was true of disadvantaged children. Disadvantaged children had relatively much more difficulty discriminating final consonants than beginning consonants, as compared to advantaged children. These findings were interpreted as favoring an explanation in terms of Negro dialect characteristics, rather than in terms of a generalized auditory discrimination deficit, as Cynthia Deutsch has proposed.



Appendix A

Examples of Instruction in Part - Whole Relationships\*

\*From Engelmann, S., Osborn, J., and Lundeen, B., Learning Language: Part-Whole Relationships. Urbana, Illinois: University of Illinois Press, 1967.

112/113/114/115

object:

SAILBOAT

parts:

hull, sail, mast, rudder

questions:

1. What parts does a sailboat have?

A sailboat has a hull.  
A sailboat has a rudder.  
etc.

2. Where do we find a sailboat?

On the lake.  
On the river.  
On the ocean.  
On the water.

3. Why does a sailboat have a rudder?  
Why does a sailboat have a sail?  
etc.

To turn the sailboat.  
So the wind will make the  
boat move.

4. Is a sailboat a vehicle?

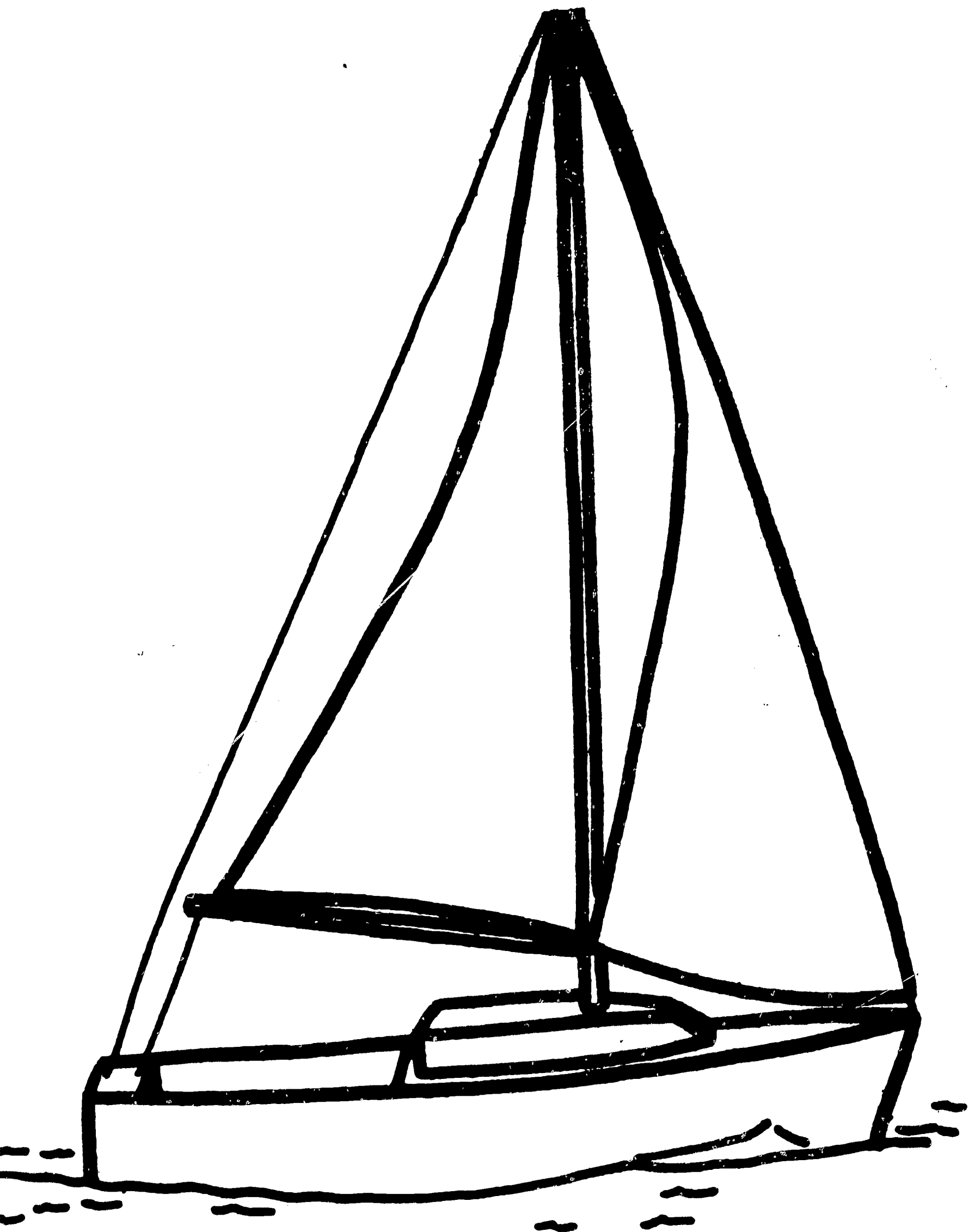
Yes.

5. What is a sailboat made of?  
What is a sail made of?

Wood.  
Metal.  
Cloth.

Absurd questions (e.g.):

6. Do we ride in sailboats on the  
street?



object:

SHOVEL

parts:

handle, blade or scoop

questions:

1. What parts does a shovel have?
2. What do we do with shovels?
3. Where do we find shovels?
4. Why does a shovel have a handle?  
Why does a shovel have a scoop?
5. Is a shovel a tool?
6. What is the scoop made of?  
What is the handle made of?

answers:

A shovel has a handle.  
A shovel has a blade.

Dig.

In the yard  
Outside  
On the farm.

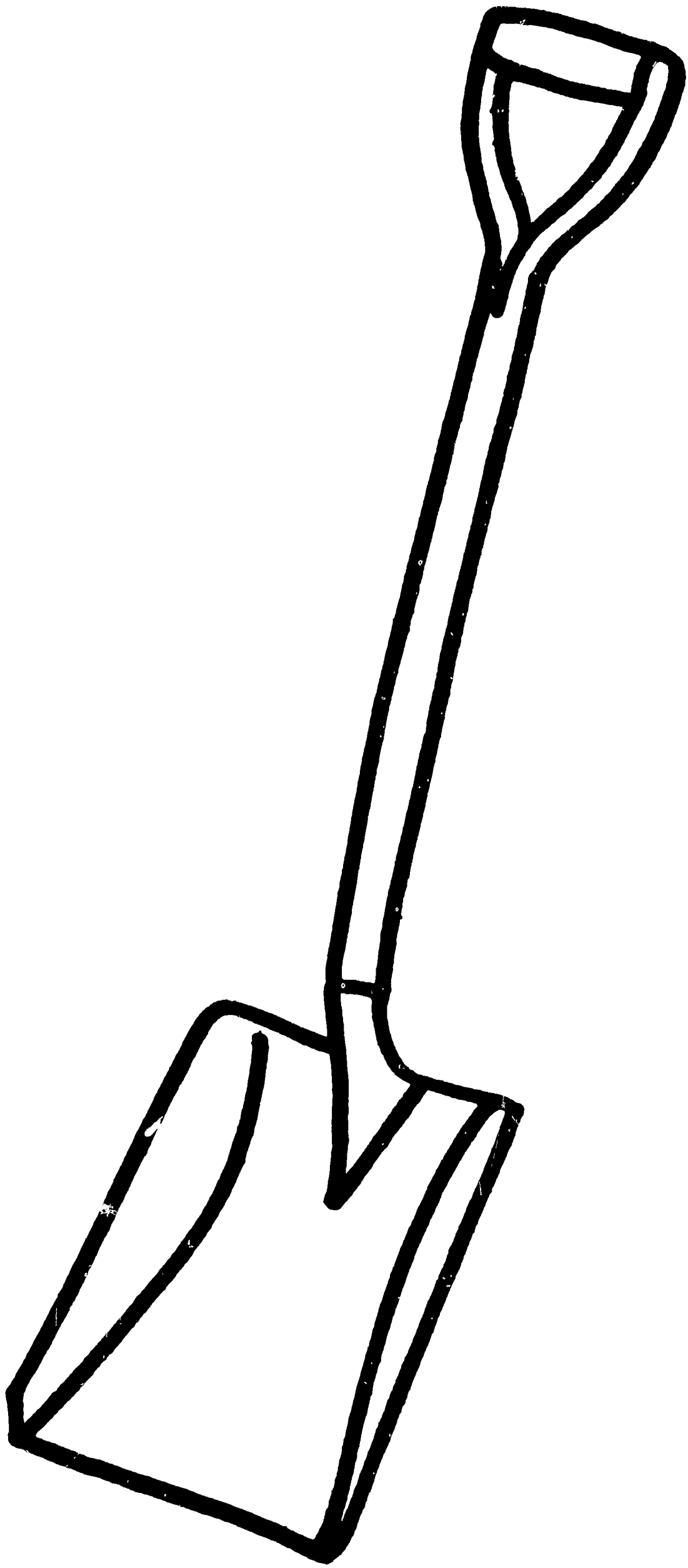
To hold it.  
To dig.

Yes.

Metal.  
Wood.

Absurd questions (e.g.):

7. Do we dig into the floor with shovels?



## Appendix B

### Criterion Tests

#### 1. Parts

In testing the names of the parts of an object, the tester first pointed to the picture of the object and asked "What is this?" The subject responded with the object's name. Pointing to each part of the object, the teacher then said, "An umbrella (for example) has a \_\_\_\_\_," and the subject completed the statement with the name of the part of the object being pointed to.

The child was given credit for each correct object and part name on the Parts Check List. Failure to produce the correct name was taken as an indication that the subject did not know the name.

#### 2. Prepositions

The test of understanding of prepositions consisted of two parts. Simple objects were manipulated in both. In the first part of the test, the tester told the subject where to put a given object in relation to another, using the statement "Put the (object) on the (object)." The subject was given credit for correctly following these directions.

The second part of the test required the subject to describe the position of a given object in relation to another. The tester placed the object over (for example) another object and said "Tell me about the (object). Where is it?" The subject had to respond with "over the table" or "the car is over the table" in order to receive credit.

The prepositions tested were: in, on, next to, over, under, in front of, in back of, beside, and between.

Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names														
1. Umbrella														
top														
handle														
2. Wagon														
body														
wheels														
handle														
3. Kite														
kite														
string														
tail														
4. Apple														
stem														
leaf														
apple														
5. Sailboat														
hull														
sail														
mast														

Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names																	
6. Shirt																	
collar																	
sleeves																	
buttons																	
pockets																	
cuffs																	
7. Shoe																	
lace																	
sole																	
heel																	
tongue																	
top																	
8. Coat																	
collar																	
zipper																	
sleeves																	
hood																	
string																	
9. Telephone																	
receiver																	
base																	
dial																	
cord																	



Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names												
10.	Pot											
	lid											
	handle											
	pot											
11.	Pencil											
	point											
	eraser											
	shaft											
12.	Book											
	cover											
	pages											
13.	Pop bottle											
	bottle											
	cap											
14.	Crayon Box											
	front											
	back											
	crayons											
15.	Broom											
	bristles											
	handle											

Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names										
16. Hammer										
handle										
head										
claw										
17. Toothbrush										
handle										
bristle										
18. Rake										
handle										
prongs										
19. Cat										
head										
body										
tail										
legs										
claws - paws										
ears										
whiskers										
20. Airplane										
windows										
wings										
tail										
body										
propeller										

Date \_\_\_\_\_

Parts Check List

Grade \_\_\_\_\_

Names										
21. Chair										
back										
seat										
legs										
22. Table										
top										
legs										
23. Car										
fender										
lights										
grill										
steering wheel										
24. Tree										
leaves										
branch										
trunk										
roots										
25. Turtle										
shell										
legs										
tail										
head										
neck										

Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names	/ / / / / / / / / / / /									
26. Dog										
head										
legs										
paws										
tail										
body										
ears										
27. Freddie										
pants										
shirt										
shoes										
socks										
28. Sink										
faucets										
drain										
bowl										
basin										
29. Ice Cream Cone										
ice cream										
cone										

Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names													
30. Flower													
stem													
petals													
leaves													
roots													
31. Pipe													
bowl													
stem													
mouth piece													
32. House													
window													
door													
roof													
walls													
porch													
stairs - steps													
chimney													
33. Cabinet													
drawer													
handle													
shelf													
door													
counter													

Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names										
34. Stove										
oven										
burner										
knobs										
35. Refrigerator										
door										
handle										
body										
shelf										
freezer										
drawer										
36. Corn										
roots										
leaves										
stalk										
ears										
37. Bird										
wings										
tail										
head										
beak										
claws										

Date \_\_\_\_\_

Parts Check List

Group \_\_\_\_\_

Names											
38. Celery											
stalk											
leaves											
39. Place - setting											
knife											
fork											
spoon											
plate											
glass											
napkin											
40. Horse											
head											
body											
legs											
hoofs											
tail											
neck											
(saddle and bridle)											





Appendix C

Achievement Test

Area I

1. Statements (Child is to repeat after the teacher)

Hold up an object and say, "This is an \_\_\_\_\_." Hand the object to the child and say, "Now you say it." (If necessary ask child to repeat statement - ask only once.)

Each child should have two chances to say the whole statement. In the space provided, place a plus or a minus to indicate whether the child passed or failed on that task.

Trials

Object

zebra _____	cup _____
pencil _____	eraser _____
chalk _____	car _____
block _____	book _____
spoon _____	ball _____

2. Plurals

If I have one apple we say, "This is an apple--if I have more than one apple we say, \_\_\_\_\_."

Present two of the following objects and say, "Tell me \_\_\_\_\_." (If necessary, ask child to repeat statement--ask only once.)

Trials

Object

zebra _____	cup _____
pencil _____	eraser _____
chalk _____	car _____
block _____	book _____
spoons _____	balls _____

3. Prepositions (Place object between two erasers and say, "Where is the \_\_\_\_\_?")

1. Between

zebra \_\_\_\_\_ pencil \_\_\_\_\_ block \_\_\_\_\_

2. On (Place object on a book and say, "Where is the \_\_\_\_?")

chalk \_\_\_\_\_ cup \_\_\_\_\_ block \_\_\_\_\_

3. Beside (Place object side by side with the car and say, "Where is the \_\_\_\_\_?")

eraser \_\_\_\_\_ block \_\_\_\_\_ spoon \_\_\_\_\_

4. Inside (Place object in a cup and say, "Where is the \_\_\_\_\_?")

pencil \_\_\_\_\_ car \_\_\_\_\_ ball \_\_\_\_\_

5. In back of (Place object in back of car. Specify: "This is the front of the car." (Point to front of car.)

chalk \_\_\_\_\_ cup \_\_\_\_\_ ball \_\_\_\_\_

#### 4. Polars

Be sure to get the child's full attention before you start. Question may be repeated once.

1. "Listen. If you are not tall you are (short)?" \_\_\_\_\_

2. "Listen. If a dress is not new then it is (old)?" \_\_\_\_\_

3. "Listen. If a cloth is not wet then it is (dry)?" \_\_\_\_\_

4. "Listen. If a stick is not straight then it is (crooked)?" \_\_\_\_\_

5. "Listen. If a boy is not fat, he is (skinny)?" \_\_\_\_\_

#### 5. Categories

"I'm talking about something." "What am I talking about?" (Tester names the examples.) May repeat list once.

1. (Toys) -- ball, doll, blocks, whistle, games, little wagon \_\_\_\_\_

2. (Food) -- apple, hamburger, juice, cracker, french fries \_\_\_\_\_

3. (Vehicles) -- train, car, bus, boat, bicycle, wagon, tractor \_\_\_\_\_

4. (Containers) -- sacks, boxes, cups, bags, purse, cartons \_\_\_\_\_

5. (Farm animals) -- cow, pig, duck, horse, sheep \_\_\_\_\_

6. Function Words (Use two blocks and three pencils.)

1. Say, "Hand me a block and a pencil." \_\_\_\_\_  
"What did you do?"

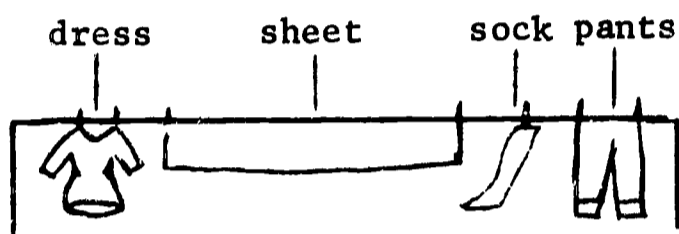
2. Say, "Hand me a block or a pencil." \_\_\_\_\_

3. Say, "Give me some of the pencils." \_\_\_\_\_

4. Say, "Give me all of the pencils." \_\_\_\_\_

5. Say, "Give me both of the blocks." \_\_\_\_\_

6. Picture story on board. Hanging the wash:



a) What did I hang first, second, third, fourth, last?

b) What did I hang before I hung the sock? The sheet?

c) What did I hang after I hung the sheet? The pants?

d) If I had hung the pants first, then the sock, then the sheet, then the dress. If the pants are first, what is second? \_\_\_\_\_ What is last? \_\_\_\_\_

7. Same and Different

Ask the child, "How are \_\_\_\_\_ and \_\_\_\_\_ the same and how are they different?" May be repeated once.

1. Horse and a cow. Same \_\_\_\_\_ Different \_\_\_\_\_
2. Red block and a green block. Same \_\_\_\_\_ Different \_\_\_\_\_
3. Tall man and short man. Same \_\_\_\_\_ Different \_\_\_\_\_
4. Wood and glass. Same \_\_\_\_\_ Different \_\_\_\_\_
5. Cup and box. Same \_\_\_\_\_ Different \_\_\_\_\_

Area II

1. Locations

- A. I see water in front of me and behind me. I see water to the right side and to the left side. I see water under me. I see a lot of water all around me. Where am I? \_\_\_\_\_
- B. I see pigs, sheep, cows, and a barn. Where am I?
- C. I see erasers, desks, chairs and a chalk board. Where am I?
- D. I see a giraffe and an elephant. Where am I?
- E. I see a sick man; men and women dressed in white. Where am I?

2. Memory for unrelated words

Repeat each twice.

- |                                     |          |          |
|-------------------------------------|----------|----------|
| 1. boy, cup, draw                   | 1. _____ | 2. _____ |
| 2. horn, paper, fly, soft           | 1. _____ | 2. _____ |
| 3. chain, bell, see, plant, face    | 1. _____ | 2. _____ |
| 4. book, tree, shoe, map, dog, girl | 1. _____ | 2. _____ |

Area III

1. Instrumental Acts

What do you do with your eyes? \_\_\_\_\_  
ears? \_\_\_\_\_  
legs? \_\_\_\_\_  
nose? \_\_\_\_\_  
teeth? \_\_\_\_\_

What do you do if you are cold inside the house? \_\_\_\_\_

What do you do if you want to cook a hot dog in a pan? \_\_\_\_\_

What do you do if you want to find out if something is heavy? \_\_\_\_\_

What do you do if you want to cross a river? \_\_\_\_\_

What do you do if you feel sick? \_\_\_\_\_

2. Days of the Week

What are the days of the week?

What day comes before Thursday? What day comes after Saturday?

3. What are the months of the year?

What month comes after March? What month comes before September?

4. Part - Whole Relationship

Object:

TABLE

Questions:

1. What parts does a table have?
2. Why do we have tables?
3. Where do we use tables?
4. Why does a table have a top?  
Why does a table have legs?
5. Is a table a piece of furniture?
6. What is a table made of?

Absurd questions (e.g.):

7. Do we sleep on tables?

Object:

LAMP

Parts:

top, legs

Answers:

- A table has a top. \_\_\_\_\_  
A table has legs. \_\_\_\_\_
- To eat on. \_\_\_\_\_  
To study on. \_\_\_\_\_
- In the house. \_\_\_\_\_  
In school. \_\_\_\_\_
- To put things on. \_\_\_\_\_  
To hold the top. \_\_\_\_\_
- Yes. \_\_\_\_\_
- Wood. \_\_\_\_\_  
Plastic. \_\_\_\_\_  
Metal. \_\_\_\_\_

Parts:

Shade, light bulb, stand,  
cord, switch, plug, base

Questions

1. What parts does a lamp have?
2. Why do we have lamps?
3. Where do we find lamps?
4. Why does a lamp have a switch?  
Why does a lamp have a light bulb?
5. What is a lamp made of?

Answers:

A lamp has a shade.  
A lamp has a light bulb, etc.

To give us light.

In a room.  
In a house.  
In a store.

To turn the light on.  
To give us light.

Glass.  
Metal.  
Wood.  
Paper.  
Plastic.

Object:

CORN

Parts:

Roots, stalk, leaves, ears

Questions:

1. What parts does corn have?
2. What do we do with corn?
3. Where does corn grow?
4. Do we eat the roots?  
Do we eat the ears?
5. Is corn food?

Answers:

Corn has roots.  
Corn has stalks, etc.

We eat corn.

In the ground.

No.  
Yes.

Yes.

Absurd Questions (e.g.):

6. Does corn have eyes?

Object:

SAW

Parts:

Handle, blade, teeth

Questions:

1. What parts does a saw have?
2. What do we do with saws?
3. Where do we use saws?
4. Why does a saw have a handle?  
Why does a saw have teeth?
5. Is a saw a tool?
6. What is a saw made of?

Answers:

- A saw has a handle.  
A saw has a blade, etc.
- Cut wood.
- In the house.  
Outside.  
Wherever they are building things or fixing things.
- To hold it.  
To cut better.
- Yes.
- Wood.  
Metal.

Absurd questions (e.g.):

7. Do we cut paper with a saw?

Object:

HOUSE

Parts:

Window, door, chimney, porch ,  
walls, roof, stairs (steps),  
shutter, garage, railing

Questions:

1. What parts does a house have?
2. Why do we have houses?
3. Where do we find houses?
4. Why does a house have a window?  
Why does a house have a door? etc.
5. Is a house a building?

Answers:

- A house has a window.  
A house has a door, etc.
- To live in.
- On the streets.  
In the city.  
On farms.
- To let the light in.  
So you can enter.
- Yes.

6. What are houses made of? Brick.  
Wood.  
Stone.  
Shingles.  
Stucco.  
Glass.

Absurd questions (e.g.):

7. Do houses take you places?

Area IV

1. Number

Recognition: 3 \_\_\_ 5 \_\_\_ 7 \_\_\_ 2 \_\_\_ 10 \_\_\_ 20 \_\_\_

Counting: Place a group of objects before the child and say,  
"Give me:"

2 \_\_\_\_\_ 7 \_\_\_\_\_ 10 \_\_\_\_\_

2. Sequences

Say to the child, "Do this!" Ask for demonstration not  
verbal response.

A. Pat your knee, clap your hand. 1 \_\_\_ 2 \_\_\_

B. Pat your knee, clap your hand, tap your head. 1 \_\_\_ 2 \_\_\_

C. Clap your hand, stamp your feet, pat your knee, tap your  
head. 1 \_\_\_ 2 \_\_\_

3. Shape

(The small colored pieces)

Circle \_\_\_ square \_\_\_ triangle \_\_\_ rectangle \_\_\_ trapezoid \_\_\_ oval \_\_\_

4. Colors

Use red, green, blue, yellow, black, white construction paper

Red \_\_\_ green \_\_\_ blue \_\_\_ orange \_\_\_ yellow \_\_\_ black \_\_\_ white \_\_\_

5. Materials

What is this made of?

Plastic \_\_\_ wood \_\_\_ metal \_\_\_ glass \_\_\_ leather \_\_\_



Appendix D

Sound Pattern and Speech Sound  
Discrimination Tests

PRESCHOOL AUDITORY DISCRIMINATION TEST

Girvin E. Kirk and Carl Bereiter

Name of Child \_\_\_\_\_ Birthdate \_\_\_\_\_  
School \_\_\_\_\_ Age (CA) \_\_\_\_\_  
Grade \_\_\_\_\_ Test Date \_\_\_\_\_  
Examiner \_\_\_\_\_ Sex (circle) M F

---

	Total Correct	Total Incorrect
Test 1. Sound Pattern Discrimination...	_____	_____
Test 2. Speech Sound Discrimination....	_____	_____

145/146/147

## PRESCHOOL AUDITORY DISCRIMINATION TEST

This auditory discrimination test was designed to measure the ability of preschool children to detect sound patterns that are the same and sound patterns that are different. Designed for testing children who are four and five years of age, the tests are contained in a two page booklet comprising two separate tests: Sound Pattern Discrimination and Speech Sound Discrimination. Each test consists of sixty sound-pair contrast items. The child is asked to judge whether each sound pair contrast in each test item is the same or different.

### Description of the Subtests

Test 1. Sound Pattern Discrimination. This is a test of the preschool child's ability to discriminate between pairs of nonverbal sound discrimination stimuli. In each item, the child is to determine whether the pair of speech sound stimuli are the same or different.

Test 2. Speech Sound Discrimination. This is a test of the preschool child's ability to discriminate between pairs of speech sound discrimination stimuli. In each item, the child is to determine whether the pair of speech sound stimuli are the same or different.

### General Administration Directions

1. The examiner should carefully examine a copy of each test, observe the directions and check the score sheet before administering each test.
2. Each child should be tested individually by the examiner in a quiet room taking care that the testing room is not situated next to a noisy hallway or on a street with passing cars.
3. Each test should be administered with the provided standard directions.
4. When administering the test, the examiner should seat the child in front of a small table, sit behind the table, face the child, and hold the test cards (on the same level of the child's eyes) above the testing machine on the table.

5. The directions to be read to the child are printed in large type. The instructions for the examiner are in small type. The directions are administered by the examiner exactly as they are printed.

6. The examiner may administer both tests in one test session or administer each test in two or more test sessions. This test procedure is employed to obtain information on the preschool child's ability to detect same and different sound patterns and not to measure his speed of response. For this reason the examiner gives ample opportunity for each child to respond to each test item.

7. The examiner should administer the Sound Pattern Discrimination Test before administering the Speech Sound Discrimination Test.

#### Directions for Test Administration

Test 1. Sound Pattern Discrimination. The examiner selects the Speech Pattern Discrimination Test cards. He holds up the two cards for the first test item sound pair contrast in front of the child and says: LISTEN. The examiner plays the first card with his left hand. Then he holds up the played card and says: WE WANT TO FIND THIS ONE. Holding up the card in his right hand the examiner says: IS THIS THE ONE? The examiner plays the left hand card first, followed by the right hand card and says: IS THIS THE SAME (holding up the right hand card) AS THIS ONE (holding up the left hand card)? The examiner notes the child's response and places a "Y" for yes or "N" for no on the score sheet in the appropriate item test box. Following the test the examiner notes the number of correct test item responses by noting the number of "Y" responses in the shaded boxes and the number of "N" responses in the non-shaded boxes. The examiner places the total number of correct items on the bottom of the score sheet.

Test 2. Speech Sound Discrimination. After selecting the Speech Sound Discrimination Test cards, the examiner follows the directions given in Test 1.

TEST 1. SOUND PATTERN DISCRIMINATION

SCORE SHEET

SOUND PAIR CONTRAST

	1.	2.	3.
1. Fog-Horn			
2. Bird-Sing			
3. Truck-Start			
4. Man-Shout			
5. Dog-Bark			
6. Hammer-Nail			
7. Door-Slam			
8. Man-Snore			
9. Fire-Siren			
10. Man-Laugh			
11. Knock-Door			
12. Man-Hum			
13. Train-Pass			
14. Man-Cough			
15. Train-Start			
16. Scissors-Cut			
17. Man-Gargle			
18. Fingers-Snap			
19. Water-Bottle			
20. Man-Clap			

Number Correct \_\_\_\_\_

Number Incorrect \_\_\_\_\_

TEST 2. SPEECH SOUND DISCRIMINATION

SCORE SHEET

SOUND PAIR CONTRAST

				1.	2.	3.
1.	Sing	King	Ring			
2.	Thin	Twin	Tin			
3.	Bun	Gun	Done			
4.	Webs	Weds	Wedge			
5.	Ricks	Rich	Ritz			
6.	Last	Lass	Laugh			
7.	Sift	Rift	Shift			
8.	Barn	Barf	Bark			
9.	Lamb	Lamp	Land			
10.	Gruel	Tool	Jewel			
11.	Cud	Cub	Cup			
12.	Tab	Tat	Tad			
13.	Sue	Shoe	Chew			
14.	Shock	Shod	Shop			
15.	Hear	Fear	Dear			
16.	Eate	Face	Faith			
17.	Folk	Choke	Joke			
18.	Back	Bag	Bad			
19.	Need	Mead	Read			
20.	Vat	That	Eat			

Number Correct \_\_\_\_\_  
 Number Incorrect \_\_\_\_\_

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## DOCUMENT RESUME

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## ABSTRACT

The three sociological studies included in this report provide a description and analysis of family and kinship, and neighborhood and community variables that affect lower class children's readiness and competence to enter into formal education. Study topics are: (1) Kinship and Socioeconomic Status, which examines home to school transition and the clash of public and private cultures; (2) An Ethnography of a White Workingclass Community, a description of life in a white, lower class, semi-rural community; and (3) Problems of Competence Development Among Ghetto Residents of a Middle-sized City which defines "competence" as a social dimension and therefore considers that input from family, neighborhood, and community severely limits the part that formal schooling can play in the development of competence. Appendixes contain data collection forms and tables used in the kinship study.  
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FINAL REPORT  
Volume III of III Volumes  
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RESEARCH AND DEVELOPMENT PROGRAM  
ON PRESCHOOL DISADVANTAGED CHILDREN

Community, Kinship, and Competence

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May, 1969

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U.S. DEPARTMENT OF  
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## PREFACE

The studies and data presented in this report aim at two objectives. First, is curriculum development and evaluation; second is research on social and psychological factors in the intellectual functioning of culturally disadvantaged children.

Under the overall direction of Dr. Merle Karnes a number of highly qualified investigators have pursued these objectives with diligence and ingenuity. Furthermore, they have, in important instances, pursued objectives to conclusions which are at the very least provocative. To many they will be startling and disturbing. Thus the sociologists, Farber, Lewis and Harvey conclude in Volume III:

Technical emphasis in educational reform (particularly that which is intended for the dispossessed) may preclude any possibility of educators making a positive contribution to the obliteration of the social and economic injustices which victimize millions of Americans...Technical emphasis in education, as it is in welfare services, is a symptom of a condition which may be termed progressive status-quoism.

Volumes I and II deal largely with the first objective, curriculum development and evaluation, and as such are excellent examples of the highest quality of the "technical emphasis" to which the sociologists on the team refer. In Volume I, Karnes, Hodgins and Teska attack such concerns as the relative effectiveness of five differing methods of preschool educational intervention with the disadvantaged child. Other concerns are to determine how long such special intervention must be continued, the optimum age for intervention, and, how much can be done by paraprofessionals in the classroom and by mothers in the home.

In Volume II, Bereiter, Engelmann, Washington and colleagues describe efforts to burrow deeper into the processes and products of educational intervention on behalf of the disadvantaged. Taking the view that the Stanford-Binet may be considered as an achievement test for the "hidden curriculum" of the middle-class home, they boldly set about to construct a compensatory curriculum geared to the Binet, and to test the curriculum. In so doing they throw new light on the criticism that substantial I.Q. gains in programs for

the disadvantaged are merely a result of "teaching for the test." In another section Bereiter grapples with the theoretical complexities of interpreting changes in I.Q.

Volume III deals almost exclusively with the description and analysis of family and kinship, neighborhood and community variables that bear on children's readiness and competence to enter into formal education. Farber examines this transition from home to school in the perspective of the necessity of articulation and accommodation of private and public cultures. He posits that where private and public culture clash those families and individuals whose way of life is incompatible with the public culture are superfluous population. Harvey describes life in a white, lower class, semi-rural community. Because his frame of reference is the same as that of Farber and Lewis, his findings extend the implications of the total report beyond the question of racial differences. Lewis presents a sociologically derived model and definition of "competence." For him, competence is a social dimension and in that perspective input from the family, neighborhood, and community sets severe limits on the part that formal schooling can play in the development of competence.

This is a multi-disciplinary multi-volume work which on the one hand undertook, with success, to add to our knowledge of educational curricula and techniques which enhance the academic performance of culturally disadvantaged children. On the other hand, an equally important objective was to inquire into factors which underlay the intellectual functioning of children. In these volumes we are confronted with the cruel paradox that acceptance of conclusions arrived at in pursuit of the second objective, raises grave doubts as to the value of present day endeavors aimed at the first objective. Resolution of this paradox will not be for the timid.

William P. Hurder  
Director, Institute for  
Research on Exceptional Children

## Acknowledgments

### Part I

It is impossible to acknowledge individually the assistance of everyone who ought to be mentioned--the parents who participated in the study, the interviewers, the research assistants who edited the interviews and coded the data, my colleagues who were responsible for the preschool programs. However, my gratitude to several people is so great that I must publicly thank them: Mrs. Audrey McNattin, who was field director for the study; Jerry Gagerman, who supervised the coding of data; Charles Mindel, who was responsible for the computer work; and Mrs. Sharon Cook, who as secretary saw the project through from grant application to final report. I am also thankful to my co-researchers Dr. Michael Lewis and David L. Harvey and especially to my wife Annette for intellectual stimulation, patience, and criticism at all stages of the study. Finally, I wish to express my appreciation to the following organizations for their cooperation: Community Day Care Center, Cooperative Nursery School, Jack and Jill Play School, Peter Pan Day Care Center, and the University of Illinois preschools.

In the report, the section "Public Culture and Private Cultures" is taken, with minor revisions, from my Mental Retardation: Its Social Context and Social Consequences.

This research was supported in part by Public Health Service Research Grant MH-07346 from the National Institute of Mental Health.

Bernard Farber

### Part II

I am in debt to many people. I would first like to acknowledge my gratitude to the people of Potter Addition. The cooperation, toleration, and friendship which they extended to me made this work possible and my job enjoyable.

I would also like to thank Dr. Bernard Farber and Dr. Michael Lewis. Their ideas are represented in this work as much as mine.

My wife Bev provided assistance, sympathy, and support without which this study could not have been completed. She was deeply involved in all phases of the research and collected data to which I could never have had access otherwise.

Finally, I would like to thank Mrs. Sharon Cook and Mrs. Judy Gagerman for their tireless secretarial effort in transcribing the taped interviews.

David L. Harvey

### Part III

I would like to thank the following people for their special contributions to the research reported here. Dr. William P. McLure, Director of the Bureau of Educational Research at the University of Illinois made it possible for me to continue to have needed secretarial assistance after grant funds had run out. I would also like to thank Dr. McLure for providing me with amenable research facilities which eased the completion of this work. Mrs. Audrey McNattin worked with such talent and energy that she ought to be credited with much of what we have accomplished. Aaron Donsky was particularly helpful as a research assistant. Arthur Davis, Jr. contributed much to the success of the data collection as a field representative in Phase I. Mrs. Annette Farber provided invaluable assistance and did so on a volunteer basis. My wife Eleanor Lewis has provided valuable editorial assistance in the preparation of the manuscript of this report. Mrs. Sherrie Denton and Mrs. Linda White have provided excellent secretarial assistance keeping track of a myriad of details and by so doing freeing me to devote my attention to the analytic problems of this study.

Michael Lewis

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## Summary

The three sociological studies included in this report focus on community and kinship relations relevant to educational problems of the lower class. The general approach taken is that in highly industrialized societies, the interdependence of the educational, economic, and political institutions requires a public culture to maintain efficiency of communication, rational organization of personnel and machines, and planning of future operations. Co-existing with the integrated network of social relationships are small, fragmented, somewhat autonomous groupings that have bases for existence outside the public culture. Those people whose ways of life are incompatible with the public culture are superfluous population; if anything, their private worlds--their private cultures--generally inhibit the smooth operation of the major economic, educational and political institutions. The studies of Champaign-Urbana reported in this volume indicate how these private cultures are perpetuated and how they influence the socialization and education of the urban poor.

### Part I. Kinship and Socioeconomic Status

The study in Part I of this report deals with some aspects of the relationship between kinship and socioeconomic status. The data used as a basis for analysis were drawn from three sources, two studies dealing with community organization in Negro and white slums and the third specifically with family and kinship. Two hundred and thirty-nine families participated in the study of family and kinship organization. The community studies are described in the second and third parts of the report.

The analysis in Part I distinguishes between domestic and structural symbolic aspects of kinship. Domestic aspects of kinship are those which emerge in the course of living together; structural aspects of kinship are those which are defined in terms of descent, generation, sex, and affinity. These characteristics, as well as information about specific relatives, help to identify the community position of an individual and his family. Community position, in turn, contributes significantly to the individual's participation in the institutions of the community--its economic life, schools, politics, and so on.

In general, the analyses indicated a greater tendency for families at higher socioeconomic levels to emphasize structural aspects of kinship in interacting with relatives. This emphasis

is reflected in various findings--(a) a greater proclivity of persons at higher socioeconomic levels to use kinship terms in addressing relatives toward whom they feel close, (b) deterioration of relationships with the father's kin at low socioeconomic levels, and (c) a greater amount of information at higher socioeconomic levels about relatives' occupations.

A further analysis of responses from parents with children in an experimental preschool program revealed that emphasis upon structural aspects of kinship was associated with a sustained increase in IQ. These analyses included both base interpretations and statistical comparisons.

The data revealed that although lower-class populations interact with relatives to a considerable degree, they generally show little regard for structural kinship characteristics. That is, lower-class populations pay little attention to such factors as generation, sex, or relationship by affinity in their reference to and interaction with their relatives.

This inattention to structural aspects of kinship appears to create problems in interaction, particularly in maintaining authority in the family. Moreover, status-differences between married and nonmarried persons have little significance and affinal ties are generally subordinated to consanguineal relationships.

Since structural distinctions in kinship are of little importance among lower-class groups, the establishment and maintenance of kinship and community relationships must occur on a different basis. As domestic aspects of kinship are dominant among these populations, liking or disliking persons becomes the basis for interaction. This emphasis on affect and eroticism as motivation for interaction interferes with the development of "instrumental" orientations toward other persons. Continued emphasis precludes repression of sexual or affective aspects of relationships which is necessary for acquiring experience and skills associated with achieving and maintaining community status. Accordingly, continual development of "intellectual" competence has little significance for these lower-class populations.

One conclusion to be drawn from this study is that kinship organization as a cultural entity may have a profound influence upon the preschool child's intellectual development. Possibly, the relative success of some preschool programs in raising the intellectual performance of "disadvantaged" children can be attributed to kinship and community factors rather than to the programs themselves.



A second conclusion is that preschool programs take into account the inverse relationship pertaining to early-childhood emphasis on sex differentiation (maleness versus femaleness) versus that on age-grading.

## Part II. Potter Addition: A Workingclass Urban-Fringe Community

Part II of this report presents an ethnography describing the life of a white, lower class, semi-rural, unincorporated community located on the fringe of Urbana, Illinois. The ethnography has been prepared with a focus towards understanding the relationship between educational institutions and the lower class community.

Data were collected during a one year residence of the writer and his wife in the community. Techniques of data collection used were: (1) participant observation, (2) in-depth tape-recorded interviews with inhabitants, (3) the collection of tape-recorded autobiographies, (4) analysis of documents, and (5) interviews with selected persons outside the community.

The findings may be summarized as follows:

1. Potter Addition, in that it is located on the fringe of Urbana, is in many respects isolated from the operations and surveillance of public institutions of the city. This physical isolation and the social exclusion by the larger community have created the foundations for the emergence of a distinctive subculture.

2. The life of the community, its social structure, and its suspicious orientation towards the outer world and the public culture were found to be shaped by both a poverty of resources and a capricious and variable input of resources. On the basis of the findings in this study and of comparative data on institutions which operate in variable environments, a model was constructed by which propositions about lower class life could be deduced: The life of the lower-class community was seen to be a set of organized responses by which members of the community came to cope with highly variable economic and social environments.

3. The variable environment placed certain restraints and restrictions on the complexity of groups in the area. Groups of a low order of structural and functional complexity were found to be the most effective forms of adaptation to the variable environment. This report suggests that the proliferation of many lower order, primary-based, non-hierarchically arranged groups was made necessary by the cost of interaction imposed on people operating with few resources in an environment where the ability to predict the success of encounters was very low. It was assumed (and data bore out the assumption) that the cost of interaction was minimized by restricting such interaction to groupings of a homogeneous nature.

4. The most stable and enduring units were kinship groups and matrilocally augmented families. The skills and techniques needed to maintain these elementary structures in the face of a variable environment were generally affectively-based. Primacy was allotted to an individual's ability to develop techniques whereby he could express solidarity within primary groups. This primary group emphasis prevailed not only daily interaction but also served as an interpretive base by which to judge the activities of rational bureaucratic institutions.

The main problem facing these groups was that of boundary maintenance. Interpersonal skills and perceptions which could "close off" the group from other groups were the main foci of interaction. Such skills as high verbal ability, ability to take the role of a wide variety of others, and the development of skills by which relationships between various groups could be articulated were not valued or rewarded. Thus skills learned in the formal educational setting had little relevance or support in the community context. To this extent the schools did not meet the needs of the child. They instructed the child in a set of non-salient techniques which, while being a precondition for academic success, had little bearing on what was needed to survive in the lower class community.

5. Very little in the occupational world of men supported the basis for loyalty to the school system. The unstable relationship of many males in the community to the occupational setting provided little support for seeing work in the context of orderly careers. The desired occupational traits were the development of a proliferation of wide ranging but shallow skills. "The good male" was a man who was a "jack-of-all-trades." As such, utility of orderly and stable careers, while verbally acknowledged to be superior, was not a practical orienting theme in the actual behavior of individuals. Hence, it may be concluded that the social, economic and community activity in everyday life provided few rewards which validated the need of the child to adjust and succeed in school.

6. In that the population of Potter Addition was excluded from the institutional and economic nexus of the larger community, sets of strategies and adaptations were adopted which decreased dependence on the rational and bureaucratic ordered institutions of the larger society. Alternative techniques of survival were chosen which constituted the circumscription of modal American norms and values. Heavy reliance was placed on kin and friends to compensate for failure in the economic and occupational market places. The assumptions of interaction were not group-oriented but rather individualistically-oriented. The display of individual traits which optimized operations in the world of the deal, of the barter, of the trade was highly valued. The acquisition of objects

through the bargain and the deal was a constant theme of interaction. The give and take of individuals locked in "combat" during such trading and bartering sessions gave economic activity a certain ritual aspect. That is, the means of acquiring necessary or desired objects often took on greater meaning than the acquisition of the object itself. Thus the community provided not only a set of independent resources for economic survival but it also supplied arenas for competence display. In these arenas competencies were rewarded which would not otherwise have been rewarded in the public domain.

7. The population of Potter Addition has been stigmatized for twenty years. Much of the stigmatization had its sources in the 1940 influx of southern rural migrants. These people and their life style became a constant source of threat and economic burden to the institutions of Urbana. Their dealings with the legal, welfare, and educational institutions of Urbana soon earned them the label of "low life" and "white trash." As such, the violent and deviant behavior of a portion of the population of Potter Addition have represented a constant threat to the efficient attainment of institutional goals.

The major response and orientation of the educational system to the people of Potter Addition has been consistently one of defense rather than one of service. The schools have sought to minimize the disruptive effects of academically inept and unmotivated students rather than to deal with the social and community roots of such traits. First, isolation at the grade school level, along with a relative deficiency of resources vis-a-vis other districts in the school system have been one way of handling this problem. Large amounts of money are not risked on a group of children whose chances of meeting institutional standards are low. A second technique by which the school has protected itself is the formation of special classes. The special classes are devices by which the more disruptive and inept students can be isolated from other students, and classroom efficiency can be maintained.

At the high school level such protective devices are no longer effective as the lower class child is now forced to compete on the basis of more universalistic criteria. Since his preparation has been poor, and there is little in the community which rewards academic excellence, it is only a matter of time before the child becomes alienated from the education process and drops out. Since the defense of the educational institution by formal allocation of resources is less effective at the high school level, a set of informal and unwritten codes become the main protective strategies for the high school. It is not considered the school's job to keep the child in school. In the past the practice has not been to encourage the lower class

child to return to school once he has made the decision to drop out. Indeed, in several instances the school personnel have been discretely discouraged from encouraging the child to remain in school. To bring the child back into school is only to reintroduce a disorganizing element back into the classroom setting. Given the assumed academic focus of the school system, the child from Potter Addition is a member of a superfluous educational population.

8. Officials justify strategies developed for their own protection by stigmatizing deviants. Due to the closed nature of Potter Addition and the need of dominant institutions to protect themselves from the members of that community, the tendency has been to label all residents of Potter Addition in an identical manner. Thus we have the foundations of the definition of community based on the exclusionary tactics of dominant institutions.

9. Community in Potter Addition lies only in the eyes of external agencies. The restrictive effects of the variable environment preclude or heavily discourage the development of structures above the family or kinship level by which a sense of "community" can be built. The definitions of reality, pictures of the outside world, and responses to stigmatic labeling are formulated at the lowest levels of social structure. Because there are no collective bases for consensus of definitions or combating of stigma above the family level, stigma are rarely dealt with at this level. Usually stigmatization is reacted to only when members of the kin group run afoul of various agencies in the public culture. There is no development of collectively-based supra-family structures by which the threat of stigmatization and predation can be dealt with. Because of failures of collective action the population remains highly vulnerable to the prejudicial and discriminatory activities of the larger institutions.

Thus a series of factors operate to impede the progress and adjustment of the Potter Addition child to not only the school but to most public institutions. The skills needed to survive in the lower class context, if learned well, create certain perceptions and actions within the lower class individual which preclude full participation in the public culture. If the child is to succeed in the public culture, he must not only learn the appropriate behaviors which allow him to operate successfully in that culture, but he must also unlearn all those perceptions, orientations, and activities which contribute to his day-to-day maintenance in the lower-class community. Because of the exclusion of the individual from the public culture via the process of stigmatization, he has little access to the full complement of skills needed to work in the public culture. In a similar manner due to

the possessive and anti-public culture ideology of the private culture of the community, he is given little encouragement to learn skills which would separate him from the life style of Potter Addition.

### Part III. Problems of Competence Development Among Ghetto Residents of a Middle-Sized City

This study attempts to analyze the problems of the ghetto in a middle-sized city confront with regard to the development of conventional competence. The investigation is informed by the logic-of-influence model developed in an earlier investigation of the same phenomena in a slum-ghetto of a large metropolitan area. The logic-of-influence model posits that the development of competence depends on a configuration consisting of (1) the efforts of formal competence agents, i.e., teachers, social workers, youth workers, etc., (2) the competence cues emanating from the individual's immediate neighborhood environment, and (3) the competence milieu in his family. When the configuration is integrated in its positive impact the potential is greatest for the realization of competence potential; when it is integrated in its negative impact the potential for competence development is at its lowest. Variable configurations intermediate to these polar types increase or decrease (as the case may be) the potential for the realization of competence potential.

After three years of intensive research our study concludes that all levels of influence in this community--formal competence agents, the neighborhood milieu, and familial competence milieu--operate to impede rather than enhance the development of conventional competence among the ghetto residents. The formal competence agents impede their own effectiveness by adopting inappropriateness styles of intervention; styles which engender and sustain excessive social distance between the agents and those with whom they are working. The deprived character of the ghetto engenders and sustains competence default and status incursion among many of those who live within it. Consequently, the competence cues characteristic of the neighborhood and the family run counter to conventional expectations in American society.

Given the serious contextual impediments to competence development, questions are raised with regard to the advisability of attempting educational and welfare innovations in this and similar communities without at the same time attempting social political and economic reform. Two reform models are presented and reasons are given for the recommended adoption of the permissive community separatism model.

Introduction: Multi-Dimensional Man in  
One-Dimensional Society

The relationship between community life and the school has been of much concern in recent literature dealing with problems of the poor. The perspective of the studies included in this report differs from that ordinarily held by educators. Generally, the school problem is seen by educators as one in which familial deficiencies are translated into intellectual and educational deficiencies. The line of reasoning ordinarily taken is that: (a) the basic patterns of learning are developed in infancy and early childhood in the family, (b) if members of the family are deficient as teachers or role models, the child will be deficient in his learning habits, (c) therefore, if these learning deficiencies are to be erased, the competence of parents as teachers and role models should be increased, (d) however, if nothing can be done about parental competence as teachers and role models, school curricula should be revised to compensate for these deficiencies. A major assumption in this line of reasoning is that the institutional arrangements in the community--schools, businesses, government, welfare agencies, and so on--cannot be modified drastically to solve the learning problems generated in these families. Given this constraint, any attempt at eliminating the deficiencies must be restricted to working with the individual children either in school programs or in the context of the family.

The three sociological studies described in this report are based on a somewhat different line of reasoning. In this investigation, the problem is seen as one pertaining to acculturation in modern society.

Public Culture and Private Cultures (Farber, 1968, pp. 103-118)

In highly industrialized societies, large-scale social networks develop to integrate the major institutions of that society. Industrial and political bureaucracies require particular kinds of behavior for their operation. The educational system is necessarily connected with the industrial and political systems as well as with the religious organization of the society. With the diffusion of literacy, forms of worship and belief systems change, the relationship between government and the individual is modified, and more complex economic organization becomes possible (Parsons, 1966). Consequently the emergence of integrative networks of institutions evokes the need for a public culture to facilitate this integration.

8/9/10/11

The public culture required to sustain the interdependence of large-scale organization consists of norms and skills associated with efficiency of communication, rational organization of personnel and machines, planning of future operations, and maintenance of the individual's position in the system. (Position maintenance is necessary because the bureaucracy cannot operate effectively without stability of personnel in recognizable statuses.) This culture is supported by the system of rewards in the society. In American society, the distribution of rewards is justified in terms of ability of persons to perform successfully in the complex of integrated institutions (Parsons, 1940). Intelligent judgment and action are generally evaluated in terms of the system of distributive justice. In modern American society, intelligent action is interpreted in terms of the incorporation of the individual into this public culture.

Coexisting with the integrated network of social relationships and its cultural paraphernalia are small, fragmented, somewhat autonomous groupings that have bases for existence outside the public culture. The family, for example, exists in almost all societies; but, in modern society, families do not have the particular political or economic production activities that would integrate them directly into the public culture. Instead, families are incorporated this way only tangentially, through the fortuitous participation of individual members. There is, therefore, a great deal of variation in the extent to which families are integrated into the general public culture.

Those families and individuals whose way of life is incompatible with the public culture are superfluous population; if anything, their private worlds generally inhibit the smooth operation of the economic, educational, and political institutions. The extent of integration into the public culture depends in part upon various other groupings with which the family is involved. For example, the father provides the major economic support in fostering family solidarity. His absence may produce disastrous effects on the children; the intelligence of lower-class children from fatherless homes continually declines throughout grade school (Deutsch and Brown, 1964). In addition, some religious groupings have norms and patterns of conduct that are consistent with the public culture, while others are in conflict with it. To the extent that these religious groupings are consonant with the public culture, their members tend to act "intelligently" with respect to the dominant industrial and political systems. Similarly, ethnic groupings vary in the degree of their incorporation into the public culture. Some ethnic groups are characterized by norms and values that facilitate their members' successful participation in modern educational, political, and economic institutions. Others have norms and values that run counter to the norms of distributive justice of the public culture.

If it were assumed that public culture is more efficient in meeting the needs of people than deviant private cultures, the explanation for the persistence of a private culture would probably be that its proponents simply do not know better; they do not know what is best for them. The ameliorative response would then be to acquaint the children with the public culture and to stimulate acculturation by showing them how public culture is "good." This view assumes that the deviant private culture sprouts under its own power and sustains itself independently.

Alternately, it may be assumed that the public culture itself nurtures and sustains private cultures. Public culture is generally considered as having emerged to accommodate the technological, communications, and organizational developments in society. A question can be raised with respect to private cultures: How does society sustain the existence of deviant private cultures?

Private cultures seem to sustain the organization of economic, political, and educational institutions of modern society in various ways. First, by their very incompetence and deviance, populations with private cultures generate a variety of agencies to meet their legal, welfare, health, and educational difficulties. As these agencies expand in size and diversity, their elimination might produce severe economic dislocations in the society. Second, the efficient use of human beings in the basic economic, political, and educational institutions in modern society depends upon a good fit between the social and intellectual competence of persons and the slots they fill in organizations. Accordingly, there must be a surplus in the population to permit a constant rearranging of persons to maximize efficiency; this surplus permits the emergence of a set of criteria--the content of the public culture--as a basis for selection. Third, the perpetuation of social classes occurs through the inheritance of privilege and wealth for an elite; since in a hierarchy someone always has to be at the bottom, the subjugation of impoverished populations with private cultures is assured.

In those segments of the society which do not receive the major rewards of the institutions related to the public culture, other justifications must be sought for living. Mysticism, chance, and fate, which emphasize the anti-intellectual norms and values to be found in the society, must furnish explanations for events. This anti-intellectualism thus coexists with an intellectual tradition related to the dominant public culture. Since the intellectual explanations do not provide a satisfactory reason for existence for the population segment that does not receive the major rewards, this segment is stimulated to rely on anti-intellectual justification for action.



With the continued automation of industry, education, and government of society, the gulf between those who are involved in the dominant public culture and those who are isolated from it may increase. The isolation itself enhances the use of private linguistic patterns to set the adherents of the private cultures apart as a reaction to their exclusion from the public culture. There is a glorification of private vocabulary and private semantic and grammatical structures. The language of the "hepcat" as opposed to the "square" (or the "hip" versus the "straight") and the popularity of the anti-intellectual art forms thrive in the counter-cultures that develop in opposition to the public culture (Finestone, 1957). Moreover, as automation continues to expand, there is a concurrent trend toward the exclusion of the large bulk of the population from the public culture and this portion of the population feels less and less able to control its destiny. Here again, the elements of chance, disorder, and mysticism enter as factors in the outcast population's interpretation of the causation of events. In addition private cultures are not subject to the same kinds of proof or the same kind of evaluation to justify their existence. The public culture is required to be coherent and rational; however, emphasizing expressiveness social solidarity, the private culture can incorporate contradictory elements in its structure. Hence the social and cognitive processes that are basic to the continuity or persistence of the public culture need not be present in the private culture. In short, individuals immersed in deviant culture do not need to develop the capacity for intelligent judgment and action with respect to public culture.

The transformation of deviance into incompetence can occur under various conditions. The plight of the Negro families in Harlem provides one example. In his study of Harlem youth, Michael Lewis indicates that the failure of Negro family members to carry out acceptable academic, familial, and economic roles derives from the patterns of family organization in the rural South. In the southern rural culture, Negro life exists as a deviant pattern. The public white culture of the South demands the presence of a Negro private culture to sustain the social and economic structure. The Negro rural culture is one that denies social mobility to the Negro. As the Negro family moves into a community such as Harlem, the structural supports (such as white paternalism) which sustained the southern Negro culture and made it at least livable are removed. The institutionalized incapacity to develop modes of life appropriate to upward social mobility is transformed from a deviant pattern to one that is ill-equipped to meet the demands of an urban, open-class system. Family breakup, the inability to delay gratifications, and the unstable role of the male (which had been part of a deviant culture in the rural South) become a basis for personal incompetence in Harlem (Lewis, 1967).

In brief, in defining intelligence in terms of the public culture, society regards as unintelligent all those who deviate. By its structure, modern society encourages certain segments of the population to deviate from the public culture. This encouragement of deviance promotes the development of fragmentary private cultures which conflict with the public culture. The conflicting private cultures involve, by definition, unintelligent action; and, since the private cultures are reflected in individuals, these cultures impede the development of "intelligence."

### Public Culture, Private Culture, and Community

The definition of the problem of intellectual and educational deficiencies among poor families as one pertaining to the socialization of children into the public culture places strong emphasis upon community life. As the community is socially stratified and subdivided into subgroups, a variety of life-styles (representing different private cultures) emerges. Some of these life-styles diverge markedly in norms and values from the public culture which dominates the classroom.

The three studies described in this report converge in their emphasis on the role of community life in sustaining life-styles which have characterized the lumpenproletariat. Although these studies differ in the theoretical constructs applied in the data analysis, each in its own way indicates how economic and social proportions in the community, set in the particular historical context of the families (as well as of Champaign-Urbana itself), mold and reinforce socialization practices which impede assimilation into the public culture.

Part I of the report examines the variations in life-styles from the perspective of norms and values pertaining to kinship. The analysis compares ways for organizing relationships with kin among people of different socioeconomic characteristics and suggests how these are related to the socialization of children. At higher socioeconomic levels interaction of kin (and perception of them) is organized on the basis of structural aspects of kinship--notably attention to generational differences--and the social characteristics of relatives is considered important to individuals. At lower socioeconomic levels, factors associated with living together are significant in organizing relationships between kin. These differences in the organization of kinship relations seem to be related to roles in the family and to the socialization of children at various socioeconomic strata.

Part II of the report presents an ethnographic account of a white lower-class community at the fringe of Champaign-Urbana. In this community, the basic problems are interpreted as stemming

from the variability of social and economic situations of the inhabitants. The precariousness of jobs, the social stigma attached to this community, the suspicion of the middle-class population all affect the life-style of the inhabitants. Much interaction is oriented toward kin who live nearby; activities are interpreted on the basis of the personalities involved (and not as expressions of bureaucratic structure or impersonal forces); personal skills related to maintaining social solidarity are valued over those required to "get ahead." The gist of this analysis is that the variable environment of the lower-class sustains a mode of socialization children in ways inimical to successful participation in institutions based on the public culture.

Part III of the report is concerned with problems in the development of competence among inhabitants of a predominantly black area in Champaign-Urbana. The theoretical model used in this analysis presupposes that the sources of competence extend from the family outward into the community. The social relationships in the neighborhood provide a bridge between the individual's family and the formal agencies of the society--the schools, businesses, civic organizations--in which people seek successful participation. Impediments to competence development can occur either in the family or in neighborhood relationships (or both). The analysis indicates how the general community operates to inhibit the development of the kinds of competence required in the public culture (a) by diverting attention and energy to activities which will impede success and (b) by isolating the black community physically and socially from experiences which would permit the development of competence.

The conclusions drawn from the sociological studies necessarily involve recommendations for the revision of communities--as well as changes in educational programs. The implication is that any educational program will be ineffective if existing life-styles continue to be sustained by the organization of the community. If so, so-called compensatory educational programs would have little meaning for the very people they would be expected to serve. Accordingly, sweeping recommendations are made at the conclusion of the report. While some of them may not be feasible, they may be necessary.

## PART I

### Kinship and Socioeconomic Status

Bernard Farber

The study reported in this section deals with some aspects of the relationship between the kinship and socioeconomic status among families in Champaign-Urbana, Illinois. A kinship system represents a set of meanings regarding individuals' place in society, their origins, and their destinies. From this perspective, kinship may be described as a cultural entity which knits the individual families into a network. This study examines how this entity varies according to socioeconomic status and how socialization of children is affected by this variation. Particular attention is given to families at low socioeconomic levels.

Kinship systems differ widely in the ways they relate individual nuclear families. These differences may be considered as a reflection of the diverse roles which kinship must play in modern society. At higher socioeconomic levels, the role of kinship is that of sustaining social differentiation in society, whereas among lower-class populations, the function of kinship is to maintain a lumpenproletariat.

However, kinship systems can be effective in maintaining a particular social-class structure only if children are socialized in accordance with this structure. Hence, norms of socialization should be consistent with the kinds of kinship systems existent in various segments of society. This study thus deals with aspects of kinship and norms of socialization at different socioeconomic levels in Champaign-Urbana.

#### METHODS

The data used for analysis were obtained from three sources--two dealing with community organization and the third with family and kinship. Three related studies were made in Champaign-Urbana as part of the same project, with cooperation among investigators extending to data exchange; findings of the community studies appear in the second and third sections of this report. One community study took place in a white slum, and the second in a Negro slum. Data collection for the study of kinship was city-wide. The two community studies utilized qualitative data primarily, whereas the kinship study supplemented qualitative data with extensive quantifiable information. The kinship study utilized data obtained from 395 parents (in 239 families) whose children were involved in various preschool programs, including one designed specifically

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for "disadvantaged children." Of the parents who were contacted, about 80 per cent of the men and over 90 per cent of the women completed at least one interview. (See Table 1 in Appendix B.) The most frequent excuse for non-participation was that of time pressures (especially for university faculty and graduate students).

Social characteristics of the respondents appear in Appendix C. Low socioeconomic families tended to be Baptist whereas high socioeconomic level families were more often Presbyterian or Agnostics and Atheists, and Catholics tended to be concentrated at middle socioeconomic levels. Relatively more low socioeconomic level respondents had been born either in Champaign County or in the lower Mississippi Valley, while high socioeconomic respondents were more often from states surrounding Illinois and Indiana, or in the northeastern United States. Low socioeconomic women tended to be younger, but men in this group showed a greater age dispersion than those at high socioeconomic levels. Finally, families at low socioeconomic levels had more children than those at high levels and more outsiders lived in the household.

## FINDINGS

The findings reported in this section deal with (a) the role of symbolic family estates in social stratification, (b) kinship organization and preschool performance, (c) particular characteristics of lower-class kinship organization, and (d) the relationship between lower-class kinship organization and socialization of children.

### Symbolic Family Estates

The analysis distinguished between domestic and structural aspects of kinship. Domestic aspects of kinship are those which emerge in the course of living together, while structural aspects are those which are defined in terms of descent, generation, sex, and affinity. Domestic relations are conditioned by ecological factors in family life and involve mutual assistance, and maintenance of relationships on a highly personal basis. Structural aspects of family and kinship depend upon the recognition of particular kinds of relationships in organizing kinship relations. This recognition of kinship structure is reflected in the use of kin terms in addressing relatives (e.g., Aunt Matilda, Grandma). In American society, kin terms are most frequently used to address persons in ascending generations. The significance of affinity is indicated by the use of "Mother" and "Father" in addressing in-laws.

Kinship systems as means of sustaining social stratification appear to require distinct groups organized on the basis of lineage segments. Loosely defined, a lineage segment refers to a sibling

group or set of siblings groups related to one another as a descent group through a common ancestor. One of the obvious characteristics of descent groups is that they provide for the inheritance of a set of relatives who pass on a symbolic estate as well as physical property. Membership in a descent group is defined in terms of structural criteria -- sex, affinity, generation, and so on. The symbolic estate inherited by an individual includes the achievements and honor of those persons, both living and deceased, in the kinship group. The relatives of a descent group give to EGO an identity in terms of his historical roots and status in the world around him. The symbolic family estate thereby serves to define EGO's place in society.

Possibly the most valuable property of a lineage segment is its position among other kinship groups in terms of honor and status, a position defined by the content of the symbolic estate that the kinship group possesses. The role of kinship groups in social differentiation may be regarded as the perpetuation and enhancement of these symbolic estates.

In contrast to systems emphasizing social differentiation functions of kinship, those systems that stress integration functions are organized to maximize the number of marital liaisons between descent groups. By so doing, they create many sources for assistance and numerous personal ties. An open system of marriage maximizes the proportion of the adult population who marry, but provides only minimum control by descent groups, which may themselves be ill-defined, over nuclear family organization.

The two kinds of American kinship systems implicit in state legal codes may reflect the relationship between kinship organization and its function for either social differentiation or integration-- the Biblical system and the Western American system. Kinship structures appropriate to highly stratified societies would involve formal mechanisms for creating alliances between descent groups and for giving the descent groups a stake in the marriage of members. The Biblical kinship system (as implied in state codes) accomplishes both -- (a) the creation of alliances through symbolic incorporation of an individual into his spouse's descent group and (b) by virtue of this incorporation gives the descent group an interest in the welfare of the married couple. The Biblical system thus seems appropriate for sustaining a highly differentiated stratification scheme. The Western American kinship system, however, makes possible the creation of marital liaisons not only with outsiders, but also with affinals--creating a wide range of potential mates--and it does impose additional intimate-kin ties after marriage. The Western American system, hence, seems appropriate for maximizing the number of kinship networks into which descent group members can enter.

Further differences between the Biblical and Western American systems can be related to their relative emphasis on structural or domestic aspects of kinship. Theoretically, in American society legitimacy and community status are obtained by adding a paternal descent group to a maternal one. Mothers and their descent groups appear to be responsible for the custody and care of children -- domestic aspects of kinship. The role of the father and his paternal descent group is then to provide for legitimacy and community status -- symbolic, structural aspects of kinship. In the American version of the Biblical system symbolic family estates are perpetuated through the symbolic incorporation of both husband and wife into each other's descent group. (This symbolic incorporation seems to be reflected partly in the use of "Mother" and "Father" to address in-laws.) Relationships organized on the basis of the Western American system, however, rely more upon domestic aspects of kinship for their perpetuation.

The tendencies of the Biblical and Western American kinship systems to emphasize social differentiation and integration, respectively, suggest the possibility that different social strata may be inclined toward one or the other. Since at higher socioeconomic levels the role of kinship is that of sustaining social differentiation within the society, characteristics of Biblical kinship would be more prevalent at higher socioeconomic levels. Inasmuch as lower socioeconomic groups are more concerned with their integration into society, the Western American system might be more conducive to their needs.

In general the analyses indicated that there is a greater tendency for families at higher socioeconomic levels to emphasize symbolic aspects of kinship in relationships with kin. This emphasis is reflected in various findings:

a. Higher socioeconomic level persons tend to use mother and father as terms of address (terms associated with feelings of closeness) and, in this way, acknowledged at least a symbolic incorporation into the spouse's family of orientation. In contrast, for low socioeconomic level persons, feelings of closeness to in-laws were related to use of first-names in addressing them. (See Table 2 in Appendix B.)

b. After divorce, which tends to be more prevalent among lower-class respondents, ties with the father's relatives tend to deteriorate. (See Tables 3, 4, and 5 in Appendix B.) However, tendencies to de-emphasize paternal kin at low socioeconomic levels seem to derive from situational factors rather than from personal preferences. A curious situation exists among Negro women with relation to the terminology for maternal grandmother -- when respondents had known both grandmothers, the maternal grandmother tended to be called "mother" and the paternal grandmother "grandmother;"

but when only the maternal grandmother was known, she tended to be called "grandmother." Assumption of the maternal role by the maternal grandmother had little to do with this tendency. This finding suggests that the women preferred to accord the honorific grandmother title to the father's mother; when that was not possible, the grandmother title reverted to the maternal side. (See Table 6 in Appendix B.)

c. Low socioeconomic status respondents generally had less information about relatives than did middle or high socioeconomic status respondents. With regard to relatives seen at least several times a year but less than once a week, socioeconomic status seemed to make little difference. It may be noted that Negro respondents seemed to know less about the occupations of their male relatives than did white respondents. Several explanations might be offered for the racial difference -- the generally lower socioeconomic status of Negroes; the greater amount of mobility among Negroes; the high rate of divorce among Negro families. (See Table 7 in Appendix B.)

In summary, families at higher socioeconomic levels tend to emphasize symbolic aspects of kinship in their relationships with kinsmen. This emphasis was reflected in the findings on the greater probability of symbolic incorporation into the spouse's descent group, stress upon paternal kin and withdrawal from them when divorce occurs, and the more extensive knowledge about male kin at higher socioeconomic levels.

#### Kinship Organization and Preschool Performance

The extent to which kinship variables predict the effect of schooling on children's intellectual performance is examined in this section. This analysis consists of two parts. First, the families of Mrs. G. and Mrs. B. are compared to indicate effects of family and kinship organization on the preschool child's intellectual development. The B. child's (Binet) IQ dropped from 113 to 97, was in that part of the program described as a traditional preschool, whereas the G. child's IQ rose from 109 to 132. Second, examination is made of kinship terminology and feelings of closeness to in-laws for all mothers who participated in the study (and whose children were in the experimental preschool program).

The selection of the G. and B. families for extended discussion occurred in the following way: Eight families were interviewed for both the kinship study and for the investigation of the Negro community in Champaign-Urbana. (The interviewing took place while the children were in the preschool program.) It was noted that Mrs. B.'s child in the preschool program had the greatest drop in IQ from ages 4 (at the beginning of preschool) to 7 of any of the cases appearing in both studies. When this was discovered, the decision was made to seek the child with the greatest increase in IQ and to study that



family more fully. Thus, quite by accident it was found that the family of the child whose IQ score rose most had many characteristics associated with valued symbolic family estates, while the family whose child's IQ score dropped did not. It is by coincidence that both the G. and the B. families consist of a widow who had had marital problems and who was the mother of eight children.

Mrs. G. is a widow in her late 30's. She and her husband were separated at the time of his death about a year prior the series of interviews with her. They had been married about 12 1/2 years prior to his death. Her husband had been a construction laborer and before that had poured iron in a foundry. Like Mrs. G., Mr. G. had been born in the deep south. He was about two years younger than Mrs. G. and had completed 8 years of formal schooling.

Mrs. G.'s household consists of ten people other than herself. She has eight children, the eldest born about a year before her marriage and the youngest about 6 months before the death of Mr. G. The household also includes an aunt of her deceased husband (her HuMoSi) and a man described by Mrs. G. as a boarder. Mrs. G. feels fairly close to this aunt, whom she calls Aunt Sally. This aunt has had two marriages and is in her mid forties.

Except for her father, Mrs. G.'s relatives in the ascending generation still live in the deep south. Although Mrs. G. does not see these relatives often, she has a considerable amount of information about most of them and calls them by kin term ("Aunt" or "Aunt Lou" or "Uncle Steven").

Although Mrs. G. and her husband were separated at the time of his death, Mrs. G. maintains contact with his relatives. While Mrs. G. does not see her deceased husband's parents often she reports feeling fairly close to them and indicates that she would go out of her way to help them. They are tenant farmers and as far as Mrs. G. knows they have been married about 40 years. Her terms of address for them are Mr. Jim and Mrs. Florence. Her husband had two brothers and two sisters, all younger than he. One sister lives in Champaign-Urbana, and the other had lived there but returned to the south. The brothers live with their parents and are still in school. Although Mrs. G. reports feeling close to both of her husband's sisters, she is closer to the one in Champaign-Urbana, whom she sees at least once a week. In addition to her ex-husband's aunt (HuMoSi) living in her household, Mrs. G. reports another HuMoSi living nearby whom she sees several times a week. She also calls this relative by the term "Aunt." Thus, Mrs. G. has maintained a close relationship with her husband's relatives despite the marital break-up prior to Mr. G's

death. Mrs. G. also has a considerable amount of information about her husband's relatives still living in the deep south as well as those residing in Champaign-Urbana.

As Mrs. G. talks about her life, she mentions numerous problems which are similar to those of other lower-class individuals. These involve premarital pregnancy, residential mobility, difficulties in marriage, and harsh and unsteady working conditions. Yet Mrs. G. and her daughter Sandy reveal life interests which differ considerably from those of other lower-class individuals. Both mother and daughter talk about their unusually heavy participation in formal organizations -- Mrs. G. in the church and Sandra in school. They view their church and school activities as things to keep them going rather than sources of tension release or fun. These organizations reflect strong, serious interests. This is the family context in which the IQ of the child in the preschool program rose and was sustained at age seven.

The B. family, in which the child's IQ dropped, may be contrasted with that of Mrs. G. Both families are somewhat similar with respect to composition and marital history of the mother; they differ, however, in the mother's relationships with affines and kinds of problems faced.

The family of Mrs. B. has many of the characteristics of the type of kinship organization which emphasizes domestic factors and suggests how this organization is related to perpetuating low community status. This family has several characteristics typical of lower-class kinship: (a) There is a wide age discrepancy between husband and wife; (b) Mrs. B. has very close bonds with consanguineal relatives but none with affines related to either of her two ex-husbands; (c) in her relationship with her husbands and with her boyfriend, Mrs. B. is dominant; (d) she has four illegitimate children, and (e) Mrs. B. and her children have severe problems pertaining to family authority.

Several aspects of Mrs. B.'s family life indicate the relationship between emphasis on domestic aspects of kinship and failure to develop an effective orientation toward education and work. With regard to kinship, Mrs. B. maintains contact only with close consanguineal kin. She has had little or no contact with the kinsmen of either of her husbands. She knows nothing about her father or his kin. On the other hand, Mrs. B. has remained close to her half-sisters and, when her brother was alive, he was "like the Dad in our home." She has depended on her sisters for assistance, advice, and emotional support.

Inquiries were made about the family a year after the interviews with Mrs. B. and her teenaged daughter Betty were completed revealed that the daughter had dropped out of school because of pregnancy. When Mrs. B. learned that Betty was expecting a baby, at first she refused to let her daughter live at home. Intermittently, Betty has lived with "other people" including her aunt, and periodically Mrs. B. relents and takes Betty back into the house.

While the contrasts between the G. and B. families may be extreme, a similar relationship was found between kinship organization and IQ change among other families. The findings on IQ increases among children labeled as "culturally disadvantaged" testify to the validity of the speculation on the importance of kinship organization for successful preschool performance. Two computations were undertaken. First, terminology used to address mothers-in-law (HuMo) was examined for mothers of children in a preschool program for the disadvantaged. Second, reports by the women concerning the extent to which they felt close to their mothers-in-law were analyzed. Although there were initially 60 children in the preschool program, follow-up IQ scores after the children had completed first grade in the public school and interviews with the mothers were available for only 41. The initial IQ score represents a Binet test given upon entry into preschool at the age of 7, after the completion of first grade.

In the first analysis, terms of address used for husband's mother were compared with changes in children's IQ from the age of 4 to 7. Terms of address used for husband's mother were classified under four headings: (1) "Mother" or one of its variations, (2) first name or nickname, (3) the formal term "Mrs." used with either the last name or first name, and (4) other. The "other" category was composed of eight women, two of whom called husband's mother "Grandma" and six of whom had never met their mothers-in-law. The findings were as follows: IQ scores for children whose mothers used the kin term "mother" or one of its variations increased on the average of 10.6 points (12 cases), those for children whose mothers used the first name or nickname in addressing HuMo increased an average of 5.3 units (12 cases), while IQs for children whose mothers used formal terminology in addressing HuMo increased only 1.6 points (9 cases). Inasmuch as people generally use the same style of address for their fathers-in-law as their mothers-in-law, there was no need to do a separate analysis of terms of address for fathers-in-law (HuFa). The analysis of kinship terminology suggested that children in families approximating the organization found in middle class groups seemed to have a better chance of upward social mobility.

The findings concerning feelings of closeness to husband's (or ex-husband's) mother were similar to those pertaining to kinship terminology. Children of women who felt definitely close to their mother-in-law increased IQ scores an average of 10.0 points (16 cases), those who felt fairly close by 7.6 points (10 cases), while those who felt distant from their husband's mother increased only 1.6 IQ points (7 cases). In 14 of the cases the husband's mother was deceased or had not been known by EGO; these increased an average of 7.9 IQ points, roughly the mean for all cases in the sample. Apparently, this last group included women whose relationships with their mother had extended over a wide range of closeness -- from definitely close to ignorance of her existence. The data on closeness thus provided additional support to the hypothesis suggesting that symbolic incorporation into the spouse's descent group facilitates intellectual development as measured by IQ. The kinds of "abilities" examined by IQ tests are associated with an individual's eventual socioeconomic status.

Other analyses were performed to determine whether such factors as marital status or race might be responsible for the findings on kinship. These results are shown in Table 8 in Appendix B. According to the data in this table, the findings cannot be explained on the basis of marital status or race. Increases for white children tend to be only slightly higher than those for Negro children. Similarly, there is little difference between the increase in IQ of children whose parents are married as compared with those whose parents are separated or divorced. Number of children in a family does seem to have some bearing on IQ increase, with a large number of children related to a small IQ increase. However, these differences do not explain IQ changes more adequately than do kinship variables.

Taken together, the findings support the contention that kinship systems which emphasize marital alliances tend to be associated with strains in society toward social stratification. Maintenance of stratification, in turn, seems to require the development of significant symbolic family estates at higher social strata.

#### Lower Class Kinship

Lower-class populations tend to place a strong emphasis on interaction with relatives. However, data indicated that the distinction between affinal and consanguineal kin is often blurred in lower-class kinship. Marriage between persons already related is not uncommon. In societies in which descent groups exist as

formal, legal (or jural) structures or in which certain ancestors are considered as significant, marriage between consanguineal relatives might increase the solidarity of kin groups through the maintenance of alliances. However, among lower-class groups, where even grandfathers are often considered as irrelevant, this redundancy of kinship ties serves to complicate the identification of kin groups rather than to increase solidarity. As a result, lower class populations find it difficult to conform to norms of middle-class families in according special significance to affines.

Instability of marriage, high death rates, and prevalence of illegitimacy at low socioeconomic levels complicate kinship arrangements further in relation to uncles and aunts, to grandparents, and to children. The absence of paternal grandparents in matrifocal families creates deviant relationships with grandparents.

The data also indicate a tolerance of illegitimacy among lower-class respondents. This tolerance implies that the importance of stable marriage is minimized. Interview data revealed competition existing between spouse and consanguineal kin for EGO's loyalty. Evidence also suggests that neither premarital sex relations nor extramarital sex provides a sufficient basis for entering into or breaking off a marriage. Although the legitimation of children appears to provide some motivation for marriage, more important is the maintenance of a domicile for these children.

Talcott Parsons (1955) has pointed out the significance of sexual exclusiveness in marriage. In order to develop an instrumental orientation in "work situations" erotic-affective motivations must be repressed. The absence of an orientation toward sexual exclusiveness in marriage operates, according to the Parsons position, to de-emphasize symbolic aspects of kinship for evaluating work and community activities. Accompanying this nonexclusiveness of sex is an apparent breakdown in traditional role differentiation between husband and wife. The data suggested that husband-wife roles in decision-making may be affected, with the husband being at least as affectively oriented as the wife.

The failure of a strong husband-wife coalition to develop or to be sustained seems to be related to other family characteristics. The data portray a general family disunity associated with a lack of residential isolation and a failure to develop consensus on generational differentiation in family roles. The older generation seems to be faced with the same kinds of problems as the younger generation -- residence, courting, childbirth and childrearing, illness, job holding, and divorce. In an unskilled social stratum where most people have similar personal and family problems regardless of generation, no one can claim special knowledge accruing with

age. There does not seem to be a shift in self-concept from child to adult. The minimal generational differentiation seems related to an inability to maintain authority in the family.

The long chain of consequences growing deriving from the complexities of lower class kinship ends with the implication that the system is oriented toward maximizing the member of kinship liaisons rather than toward developing categories of relationships clearly demarcated by age-status and affinity.

### Kinship and Socialization

Kinship organization among lower class families may be related to norms relevant to the development of intellectual competence. In this study, the kinds of data used to examine this relationship did not lend themselves to a statistical analysis. Case material was garnered as evidence to support the investigator's observations. The findings on socialization are thus weaker than those described earlier, but their plausibility and consistency with the previous material lend credence to interpretations made.

The connection between kinship organization and socialization in lower class families in the following set of statements represents a distillation of conclusions drawn from an examination of about twenty extensive case histories:

1. Failure to incorporate marriage partners into their spouse's descent group symbolically blurs generational distinctions in family interaction: ages between husband and wife vary widely, lines of authority in the family are impeded, and roles of household members are confounded.

2. With generational distinctions blurred, there is little reason to regard marriage as an important change in status: the woman may already have at least one illegitimate child; the bride and groom may have been living or sleeping together over a period of time; the marriage may represent a second or third try for the bride or groom; there is a high probability of marital breakup. Consequently, affinal ties are subordinated to consanguineal relationships.

3. The de-emphasis of marriage and affinal bonds diminishes the importance of symbolic family estates in maintaining family and other personal relationships. Instead, eroticism and affect become the basis for establishing and maintaining interaction: Marriage does not require sexual exclusiveness, and there is generally no need to depersonalize work activities. From a developmental

viewpoint, this continued emphasis on affect and eroticism precludes repression of sexual or affective connotations in acquiring experience and skills associated with achieving and maintaining community status and the establishment of valuable symbolic family estates.

4. The pervasiveness of eroticism and affect influences age-graded norms: Codes related to sex differentiation are taught to lower-class children generally before acceptance of postponement of gratification, and greater importance is attached to them. Loyalty to friendship groups and interest in erotic and affectional relations may then override considerations involving postponed gratification. (See Tables 9 and 10 in Appendix B.)

5. Given this emphasis upon the biological aspects of man, the typical conception of human nature is that man is essentially an animal. As such he needs to be loved and nurtured as well as trained and domesticated. His familial obligations to consanguineal relatives are rationalized and his warm feelings toward them justified. Furthermore, since a child is essentially an animal, the initial distinction to be made refers to the fundamental biological dichotomy-- male and female. This conception of human nature is consistent with the tendency to teach children sex differentiation early in life, and it supplies him with a motivational scheme that will serve him throughout his lifetime.

6. Given this conception of human nature, experience does not result in a transformation of man; he is essentially static, and the tricks that he learns do not change his essential nature. The initial wildness in man is still present even with domestication, ready to erupt when constraints are discarded. Continual development of competence has little significance in this conception of human nature.

#### CONCLUSIONS

This study has suggested a connection between kinship organization and intellectual competence. The pervasiveness of eroticism and affect and the prominence of norms related to sex differentiation in lower-class family life are in marked contrast to the discipline and delayed-gratification (i.e., age-differentiation) norms at higher socioeconomic levels. These norms, in turn, seem to be associated with kinship organization.

The findings indicate that personal discipline and adherence to delayed-gratification norms function to develop and maintain symbolic family estates. Preschool disadvantaged children whose

parents give evidence of developing viable symbolic family estates are able to conform more readily to intellectual expectations in school.

As experimental preschool programs are evaluated, it seems necessary to include an analysis of the family and kinship background of the children who participate. Ordinarily, in evaluating these programs, some perfunctory attention is given to father-absence or number of siblings, but little study is made of the family and kinship contexts as cultural entities. This study has indicated that the kinship organization may have a profound influence on the preschool child's intellectual achievement. Possibly the relative success of one preschool program over another in raising the intellectual performance of "disadvantaged" children can be traced to variations in family and kinship organization of participants rather than to differences in the programs themselves.

An implication of the study for preschool programs is that the training of teachers and the development of curricula take into account the differential emphasis on sex differentiation and age grading in lower-class family and kinship organization. Rather than being functionally independent of one another, both characteristics seem to be related to the development of norms pertaining to delayed gratification. Stress on maleness or femaleness from early childhood provides for a mode of immediate expression of feelings and behavior; age grading, however, connotes the accumulation of privileges as the individual grows older, and it implies the inhibition of feelings and behavior which conflict with learning conduct appropriate to age-graded norms. Preschools could attempt to provide a foundation for developing concepts of privileges associated with achievement of age-graded conduct; at the same time, they could minimize sex differentiation for the children. Although contradictory norms in the home and community will probably diminish the effectiveness of these modifications, the effort may be significant for those children already on the margins of middle-class life styles.



## PART II

### An Ethnography of a White Workingclass Community

David L. Harvey

This study is part of a larger project which explored the relationships between lower class social structure, kinship, and community life as they effected the school performance of the lower class child. It was carried on in conjunction with Bernard Farber and Michael Lewis, both of the University of Illinois. This report is in large part, a joint product and should be seen as an integral part of a larger study. Data and ideas were freely exchanged between the researchers over a two-year period. This study of a lower class white community thus complements Lewis's analysis of a black ghetto and Farber's more general and over-arching analysis of lower class kinship. While the results of this study in large part reinforce the findings of Farber and Lewis, there will be, needless to say, variations and differences in the findings and suggestions for remediation. It is the conviction of this writer that such variations are due to the nature of the communities studied than to any clear contradiction arising from methodology and interpretive style.

#### PURPOSE OF STUDY

The purpose of this study was to prepare an ethnographic picture of the life of a white, lower class, semi-rural, unincorporated community of about 300 persons located on the fringe of Urbana, Illinois. The purpose of this research may be broken down into three distinct areas. First, there does not exist in the literature at this time an intensive study of white lower class community life and its connections to the public institutions of the larger society. Secondly, this project was undertaken at the urging of Farber and Lewis in order to acquire comparative ethnographic data which would provide a comparative base for Lewis's study of the black ghetto. Thirdly, the main point of all three studies was to explore the relations of educational institutions and lower class life as they were shaped in the lower class context.

This report will not focus on the elaborate presentation of detailed ethnographic data. The description of community life will be made in order to provide the reader with background material with which he can evaluate the relation between community and school. On this basis then, this paper will be organized into the following sections:

1. The methodology employed by the study.
2. The brief presentation of a theoretical model of lower class life.
3. A finding section which will include the following:
  - (a) physical description of the community
  - (b) brief description of the area
  - (c) the economic foundations of community life
  - (d) an outline of community social structure
  - (e) stigma and the generation of community
  - (f) stigma disavowal and the ideological counter-attack of the poor
  - (g) individual disavowal of the community
  - (h) collective strategies of stigma disavowal and the failure of the community.

The last section will present a conclusion of the present study.

#### METHODS

A series of research strategies were employed in the gathering of data on community life. These strategies were: (1) participant observation, (2) analysis of documents and records, (3) extended and in-depth interviews with selected members of the community and (4) interviews from various public officials and employees of the local school system.

##### Participant Observation

The writer and his wife implemented the participant observation phase of this study during a one-year residence in the community. We shall call the community "Potter Addition." The activities included in participant observation were: (1) daily socializing and visitation to homes in the area, (2) visitation and "loitering" at the area's general store and many garage-junk yards, (3) a participation of the writer and his wife both jointly and individually in the few formal organizations which had their base in the community.

This phase of the study while being the most valuable in terms of data collection nevertheless, was fraught with several problems. First, the population of the community due to its history of physical and social isolation as well as other factors were highly suspicious of the writer and his wife. No attempt was made on the part of this

writer to hide his intentions and reasons for being in the community. Despite such "openness," however, the writer was still feared by the population. It was constantly brought to his attention that the people expected him to "dig up dirt" and "write a Peyton Place" (Gallaher, 1964).

Therefore, the first six months of the study were relatively unprofitable by the writer's standards in gathering data. Much of the data gathered during this period have the mark of a Hawthorne effect, interaction carried on with community members was strongly shaped and affected by his presence (Landsberger, 1961). Many community members were inclined to present legitimate fronts and hide certain aspects of biographical stigma were consistently present in the research situation during this period.

During the last six months of field work, however, a portion of the population showed acceptance of the project. Rapport with these few families was excellent. In four cases the writer and his wife were more or less adopted into the family group. As we shall see later such adoption carried with it mixed blessings. Due to the social structure of the community such adoption or close alliance with one set of families automatically cut the writer and his wife off from other families. The norm of "if you are not with us, you are against us" and the denial of the validity of neutral affiliation were constant facts of life which had to be dealt with. The writer attempted to maintain close alliance with various members of the community within the limits of the above mentioned restraints. However, the familistic nature of social organization of this community was a constant source of frustration. As a result of this familistic structure approximately 30% of the households were cut off as potential arenas of data collection. While such research contingencies must bring the sampling problems, it is the writer's impression that the findings presented in this report are still representative of the community as a whole.

#### Analysis of Documents

During the first six months of relatively "empty" time, the writer investigated the history of the community through the use of various documents. Such an analysis during this specific period of field work was dictated by two different contingencies. First, it was felt that in order to gain an adequate picture of community life, historical analysis of the community's development was necessary. While much of the basis for this developmental analysis was later obtained in tape-recorded interviews, necessary ground work was performed utilizing

non-intrusive research techniques. This was thought to be the best time for such research since during this period the researcher was in the process of introducing himself to the community. The second reason for document analysis at this time was the view on the part of the writer's neighbors that working required absention from the community. Many would have interpreted the writer's daily presence in the community as loafing. Thus, for the period from October 1967 to March 1968 the writer left the community during the morning hours and either worked in his office or in the county courthouse. The documents inspected at the county courthouse were property records spanning the years 1927 to 1965. Data gathered from this source consisted of the names of owners, residential addresses of owners, and assessed value of real property. On the basis of these documents the growth of the community was traced. A rough approximation of absentee and residential ownership status was made and later as the kinship patterns became obvious in the community, a linkage was made between kinship affiliation and property to establish ecological correlates of kinship estates.

The second source of documentary data was drawn from the city directories of Champaign-Urbana. The years covered were, again, from 1927 to 1965. Four years of city directories were missing. Using the names gleaned from the analysis of real estate records, the city directories were used to reconstruct patterns of occupational and residential mobility for those people listed as property owners. This data, as it turned out, was moderately unreliable. The number of years missing made any type of analysis based on city directory linkage highly dubious. However, some tentative generalizations made on the basis of these documents were later confirmed in interviews. In the final analysis, the data drawn from the documents were used to block out general areas of inquiry as well as to form specific hypotheses concerning community growth and migration which were later explored during the interviews.

### Interviews

During the last four months of field work a majority of time was spent on the interviewing of informants using a tape recorder. The data collected represented ninety-five hours of taped interviews. The writer after weighing the pros and cons of the issue felt it best to pay informants an average of \$2.50 for each hour of interviewing. It is this writer's opinion that paying respondents in no way affected the nature of the data collected during these interviews. The subjects interviewed consisted of seven women and three men. The "class composition" of these individuals as well as their length of residence, age and stage in the family

cycle were varied. The only bias which could affect the type of data gathered was that these individuals had all established friendships (friendships which to this day are still intact and valued) with the writer and his wife. However, the value of such data is perhaps not that as a statistical base for making unbiased generalizations, but as intimate biographical and historical information providing detailed descriptions of lower class family life. Without statistical estimators of bias, the writer must rely on his intuition as to how representative the data collected in these interviews are of the larger groupings of people in the community. It is his belief that the data are fairly unbiased. Any such biases which may indeed be present in this data is far offset by the completeness and detail with which lower class social structure and world views were unfolded.

### Interviews with Public Officials

The focus of this study was on the internal structure of the lower class community. It was felt that this would be the greatest contribution of such a study; Dr. Michael Lewis had collected data of a much more complete nature on public institutions, such as the schools and local government. Thus, interviews with people outside of the community, especially representatives of the public institutions of Urbana, were not given high priority. However, the data collected, especially as it related to the relationship between the community and the school, was sufficient to allow some degree of confidence on the part of the researcher in this data. The data which was gathered dealt mostly with the perception of various school personnel of children from Potter Addition. Checks with Lewis concerning his data on the school systems and the political structure of Urbana show enough agreement with this writer's findings that he has confidence in the data collected in these interviews.

Before leaving the methodology section, a note would be appropriate as to the writer's modes of interviewing. While the writer has had some experience at interviewing, he has considered himself an ineffective interviewer when using directive techniques. Therefore, the interviews consist almost entirely of people speaking about things that they consider important. After several hours of interviewing any one subject, a more directive technique was intermittently employed. However, such directive techniques were held to a minimum. This technique as it turned out was amazingly successful. Some of the most insightful data gathered during this period came from such open ended interviews.

A second lesson learned from these interviews concerned the problem of establishing rapport. The anxieties over status on the part of respondents was a dominant element in every beginning interview.

Such "status anxiety," however, was usually reduced on the part of the respondents by the interviewer. The anxiety was reduced by the interviewer drawing upon his own background and "confessing" about the more stigmatized aspects of his own background. This "parody" on contract therapy was extremely effective in establishing rapport with the respondent. In short, by confessing his own shortcomings and exposing his own blighted biography, the interviewer established a contract by which interviewee stigma could be discussed in a safe and unthreatening atmosphere.

### Conclusions

This brief summary of research methodology has attempted to explain how data were collected in this study. It has concentrated not only on a recounting of technique but has also tried to relate succinctly some of the problems in this study. It has not talked of the personal anxiety and the tensions in the writer's family by living in a "fishbowl" amidst a group who were at best impassive and at worst silently hostile; a group which extended trust only grudgingly (Evans-Pritchard, 1940). It has not referred to the uncertainty of the research situation as it was confronted from day to day. These latter variables of the research situation heavily affected the writer's life and undoubtedly the writer's picture of community life which will be sketched in the following pages. Community researchers have only recently begun to admit to such feelings and to evaluate the effect of such confrontations on the conclusions drawn from community research (Vidich, et al., 1964). At this point, the discipline of sociology has no way to evaluate consistently the effect of such factors on the findings of participant evaluation studies. The experience for this writer was so emotionally charged that even today an attempt to evaluate the effects on such research is still impossible.

If one takes a rigid view of sociology using the model of the physical scientist, inability to deal with such intense affect-laden factors might be argued to be a basis for the invalidation of any such study. However, if one views sociology as in part being a humanistic discipline the concomitant creation of self and community, their mutual re-definition and shaping, become part of the process of ascertaining "reality."

In a broader sense, what is at issue here is the place of participant observer studies in the whole arsenal of sociological methodology. It is this writer's belief that the gap between the "humanistic" and "scientific" branches of the discipline is a spurious division. Community studies, if viewed from the humanistic approach, can be seen as valuable in and of themselves. However,

if one adheres to the "more empirical imagery" of the discipline, a place for such studies can still be found. In this context, participant observer studies while sacrificing scope, still provide for the researcher an intensive encounter in experiencing the mode of life of a population. Such studies provide an intuitive insight, a "verstehen-based feel" for a subject matter which will be invaluable in the framing of hypotheses and models which may be tested with more extensive and survey based techniques of measurement (Aron, 1964, pp. 67-107).

#### THEORETICAL FOUNDATIONS

The crucial debate being carried on by sociologists and social workers alike today centers around the question of whether the lower classes represent a distinct sub-culture or whether they represent merely a quantitative variation of American values and social structure (Miller and Reisman, 1961). The anthropologist Oscar Lewis, while not alone, has been the most outspoken advocate of the "culture of poverty" approach (O. Lewis, 1965). In this view the lower classes represent cross-culturally an economic underclass created by rapid industrialization and passed by in the backwash of industrial capitalism and mechanization. This "culture of poverty" as seen by Lewis is a semi-autonomous structure, isolated from the dominant institutional structures of its parent society. It represents a unique ecological and cultural adaptation of a group, which thrown back onto itself and its own resources creates a set of structures and self-maintaining protocols by which the culture of poverty is created and sustained as a "closed system." The anthropologist Walter Miller, in his study of "lower class delinquency" has also argued that the lower class represents a unique configuration of social elements which is in part independent of the public institutional life of American society (W. Miller, 1958). Much of the debate as to the "cultural autonomy view" as opposed to the "quantitative deviant views" of the lower class has been developed in the literature on juvenile delinquency. Thus, Matza in his book Delinquency and Drift and in a later article, "The Disreputable Poor," strongly attacks the notion that the lower classes qualitatively vary in their desires, values, and norms from the rest of the society (Matza, 1964 and 1967). Such debates on the nature of lower class life are not merely pleasant differences between impotent academics to be debated and refuted in classroom situations. Indeed, the visions of the lower class as held by men in the social sciences at this point in history have policy implications of a most profound nature: implications which are put much beyond the academic setting.

If the poor are a problem, then how we deal with the poor must be based on how we define the poor. With few exceptions the imagery which the poor have of themselves is not a relevant factor in shaping programs which will affect their lives. From the writer's experience,

when "control" is given to the poor, it is usually given under conditions of strangulating restriction and tokenism.

If we view the poor in their way of life as merely quantitative variations of modal American social structures then remediation must take the form of uplifting the poor. The poor must be seen as deviants, as unskilled, as uneducated, and as presently unfit for full participation in American society. From this viewpoint they are merely deficient, not different. Their deficiencies lie in an inequity of means and not in values which differ from those of the larger system. Once having defined the conditions of the lower class as merely "deviance of kin," programs to upgrade skills and abilities would seem to be the logical approach in dealing with this underclass. If the poor are poor one need only give them money; if the poor are uneducated, the one need only give them a head start; if the poor are unskilled, then one need only provide training for jobs; if the poor are powerless. . . but here the logic stops. Thus, the imagery which we hold shapes the solution to "the problem" of the class.

It is this writer's opinion that such a conceptualization and accompanying solution states as much about the political orientation of the remediator as it does about the state of those who are the objects of remediation. If we assume there is indeed value consensus in a society, then the problems of the poor can be solved without an appreciable alteration of the political structure of our nation.

We can dissolve the poor as a class and as a problem in a pleasant and painless way. No significant re-evaluation of social principles is required to solve the problem. It is this writer's opinion that such an approach (as embodied, for example, in the "war on poverty") has found favor among certain educators because it is the only visible response to a problem solution that can be developed by a professional class notorious for its political impotency and neutrality (if not outright reactionary posture). Indeed such a view of the lower class allows a simple solution. While programs based on the "poor as deviant" assumption may fail to meet the needs of the poor, it may nevertheless create a successful solution insofar as "successful solutions" are a prerequisite for continuing organizational viability and elaboration. Another way of saying this is the "poor as deviant" may be a myth. It may be a myth whose sole function is to allow the administrator "to act" without changing the conditions which give rise to the problems of "poverty." Like all myths, its main value lies in the functions it performs for those in power. Thus if it serves the purposes of the educator and administrator that is all that is important. Failures of organizations to meet stated goals yet to claim success by the attainment of other goals more meaningful to internal maintenance of the organization is not a new phenomena in bureaucratic studies (Cf. Selznick, 1966).



The position being taken in this paper is that the "poor as deviant" approach is just such a myth. It serves better the needs of educators (and welfare administrators) than it does the needs of those whom they supposedly service.

I have suggested that the "poor as deviant" conceptualization of the problem is an "easy way out." In what way then, we must ask, does the definition of the poor as a unique subculture present a more difficult problem for those who must administer programs to the poor. It is simply this; if we assume that there is a value consensus at all levels of social structure, then the solution to the problem consists only in the discovery of appropriate techniques needed to implement remedial programs. On the other hand, if indeed the values, and/or goals and/or needs of the lower class are indeed of a different order than those of the larger society, then the questions arises as to whose way of life shall be preserved; whose values will be implemented and even more crucial who will decide.

At this point questions of the American credo, those basic values held dear by all, emerges. Democracy becomes an issue. Should the people decide? Should "one man - one vote" be extended to a stigmatized element of the population. Whose will should prevail? - the unorganized "scum" of society or that of the administrator and the organization he serves? We have recently seen the answer in New York City. Once value consensus is no longer assumed, the dominant issues become those of power, authority, and legitimacy in organizational activity. If indeed, administrators, the technicians supreme of organizations, define the situation as one of value conflict then his role of technician all but disappears. Rather, he then becomes a mediator of values: a politician. In short, the question of politics; the question of allocation of resources; the question of who has the right to make decisions must inevitably be brought to the fore. Under this alternative definition of the situation, poverty programs no longer ameliorate, they rather destroy indigenous institutions which represent structures of lower class environmental adaptation. Such programs no longer aid the poor but indeed come to constitute a literal war on the poor. Under these conditions, the poor as a class must be destroyed.

Viewed from the perspective of such writers as Marcuse, the war on poverty, and the acts of ameliorative and service agencies become no more than mechanisms to expand ever increasing controls upon a segment of the population which until now has exhibited behavior not amenable to the rational bureaucratic manipulations of modern institutional life (Marcuse, 1964). To view the lower class as a semi-autonomous culture is to bring grave doubt about not only the goals of such programs but more important the means of various ameliorative programs. It is this writer's experience, however, that these are not seen as serious problems by educators.

They merely define the problem away. They are technicians, teachers of intellectual skills. The ends of programs are not properly defined as being in their domain of concern. These are the concerns of "higher authorities." Thus goes the war on poverty at the educational and welfare fronts.

In reality the poor are not a homogenous grouping. If we view them merely as an economic class and ignore the variations of life style, which demarcate various low income groups, then we are engaging in an economic bigotry which assumes uniformity where there is little. To treat the poor as a homogeneous class as either wholly deviant or as totally culturally autonomous is to practice bigotry of the same nature that is practiced when we use "Nigger" or utter the phrase "what do those people want?". It is this writer's hope that this research can in part contribute to the understanding of the diversity of life style found in lower class populations. It is also hoped that his study will sensitize the observer and the reader to the need to construct educational programs more closely to fit the motto "from each according to his ability, to each according to his needs."

#### A THEORETICAL MODEL

Research in the last few years has indicated that the lives of the lower classes and the social structures which develop in lower class communities cannot be explained entirely by resource deficiency and lack of physical facilities. There is a growing body of literature which suggests that two additional factors play an important role in shaping lower class social structure. The first factor centers around the nature of the input of resources into the basic structural units of the community. While being poor per se, implies that little is made available to actors in the lower class situation, it is the contention of this study that the actual rate of input of various resources (i.e., money, prestige, and evaluation) is of a highly variable nature. It is this variability of environmental responses which will be the main focus for the model to be presented in this section (Cf. Cohen and Hodges, 1963). It will assume that lower class life is not generated by lack of physical resources per se. Rather, it will see lower class life as a loosely, positively organized strategy to a set of unique social and ecological conditions. It should be said from the outset that the emphasis on variable social and economic environments in no way should be interpreted as a "refutation" of the fact that the poor are poor because they do not have adequate financial assets. On the other hand, it is felt that poverty is not an efficient enough assumption to construct a model of lower class life. Indeed, the unpredictability of resource input will be seen as being as important in understanding lower class social structure as is the deficiency of those resources.

The second factor which must be taken into account is the process of social evaluation as it effects the lower class person and his self conception. From one sociological viewpoint it is this process of evaluation which generates the stratification structure of the society (Parsons, 1953). While this writer does not accept this view totally, the observations accumulated in the field have forced upon him the conclusion that stigmatization of lower class groups as part of a more general evaluation scheme is a powerful structural determinant of community life. The effect of stigma and the consequent generation of community will be dealt with in a latter part of this report. Thus, the three elements which tend to shape lower class social structures are: (1) paucity of available resources and facilities, (2) variability of input over time of those resources, and (3) the response of lower class populations to stigmatized evaluation by leaders of dominant institutions.

#### Variable Environments in Social Structure

In every definition of social structure, one encounters some variation of the concept "stability of behavior patterns in time and space." Thus, Radcliffe-Brown suggests that when the researcher enters the field to study social structure he should select those behaviors of individuals which are stable in time and space (Radcliffe-Brown, 1952). These represent the empirical foundations of social structure. The structure-functionalist perspective concurs with Radcliffe-Brown in that it sees social structure as centering around some set of stable patterns and expectations by social actors. Even those social scientists who have lately attacked the structural-functionalist position have constructed alternative explanations of social structure which incorporate the ideas of stability and certain constant reference points in social structure. Thus, Leach, in an attempt to construct a model of social structure in the Chin-Hills of Burma to take into account the ideological and segmentary aspects of primitive societies, has in the end suggested that structural processes represent dialectical movement between two sets of opposite and well articulated world view (or sets of meanings) (Leach, 1954).

In reality the question of stability as a central defining concept in social structure can be reduced to a set of patterns of predictable exchanges between the structure under study and various aspects of its environment. It is generally assumed that the entire process of the institutionalization of social structure centers upon a set of stable protocols which govern and normalize exchanges. It has been argued that to the extent that patterns of exchange are not stabilized and predictable, to that extent we cannot talk in the strictest sense about social structure and institutionalization.

It might be argued from the foregoing that if we assume the existence of variable environments, we cannot, in the strictest sense, discuss "lower class social structure." This need not be the case. If we assume that instability of symbolic and economic input into a social structure becomes a cognitive element in the orientation of social actors, then the non-predictability of environmental input does not necessarily deny the possibility of the existence of something called lower class social structure. Indeed, using Farber's concept of predicament it will be argued that the "perplexing problem" of environmental variability can become an integral part of the strategies of actors (Farber, 1964). We can then assume that lower class life can then be seen as an attempt to develop strategies to deal with variable environments. In this case, the unique effects of variable environments merely weakens the degree of certainty and predictability of environmental input. Thus, much of the lower class life will be seen as being positive response to create social structures in an environment whose variability they are powerless to delimitate. In the face of such powerlessness it will be argued that the lower class to an extent normalizes such variability by taking it into account and in some way encapsulating it so as to decrease its disruptive affects on group life.

Two observed traits of the lower class tend to support the assertion that lower class individuals are more vulnerable to environmental caprice than are other classes in the society. The first observation is that the lower classes are more prone to have unstable work histories (D. Miller and Form, 1951, pp. 539-605). They enter the labor market at an earlier age; are subject to longer periods of job searching behavior before they finally settle into a life occupation and are more prone to longer periods of unemployment. On the basis of the data collected in this study there is an additional variability which rounds out the general picture of this career instability. Namely it was found that in certain occupations which were heavily represented in this community, annual variation of unemployment especially in the construction industries created recurrent crisis in family life due to the uncertainty caused by fluctuation in income throughout the year.

Another factor which supports a picture of highly variable environments forming a context of lower class life are the oft-noted tendencies of lower class and to some extent working class life to fluctuate wildly between routines and thrills (W. Miller, 1958). These two factors, the inability to normalize or otherwise make predictable certain economic and social givens is seen as the crucial elements in the lower class environment.

We may hypothesize that one way in which the lower class can successfully deal with such unpredictability of the "world out there" is to place limitations on any extended type of personal

commitment. In short, a successful strategy for lower class survival would be to predicate all activity on the assumption that life will be based on the minimal predictable rates of input into the group. The strategies developed under these assumptions are basically conservative. They do not validate a view of life which sanctions aggressive exploitation of the environment. Rather, the strategy is designed to check forces which could potentially overwhelm a person.

To the extent that the group does not operate on the assumption of minimal resources, crisis will ensue. If a family were to make economic commitments beyond their resources, group bankruptcy would ensue. In a similar manner on inability of the lower class group to measure exactly its potential power and prestige in social exchange would be disastrous in most cases. Since indeed power and status also represent, in some cases, variable commodities by which the group can obtain adjustment, their misreading of the environmental situation would be inadequate and precipitate a situation which would be maladaptive to group survival.

#### Variable Environments and Problems of Group Integration

The two basic problems which in any group must solve in order to insure its continued existence are those of integration and differentiation. Processes of integration are essentially those aspects of group structure which contribute to the unity and cohesion of the group. Differentiation on the other hand is the process by which a division of labor is established within a group so as to efficiently mediate and solve problems presented to the group by environmental challenge. We have already assumed in our model of lower class life that successful responses to variable environments and the consequent reduction of crisis situations can be accomplished by the placing of severe limitations on personal and group commitment. Another way of saying this is that individuals confronted with the variable environment will limit encounters to low risk situations, that is, to encounters which carry with them low social and economic costs when expectations are violated. Implicit in this assumption are two basic ideas. First, in that trust is the basic prerequisite for any social exchange, trust will be restricted to a very small group of individuals and situations. In order to "cut expenses" of interaction, interaction will be restricted to only the most predictable encounters. Risk then could be minimized by choosing audiences of interaction which are similar in social characteristics to those of the actor. Secondly, reciprocity in exchange situations which are built on this substratum of trust would also be restricted to relatively homogenous contexts if the cost of interaction failure were to be minimized.

We have already stated that variability cannot be eliminated. Following Coser, this may be stated another way. The group does not have available sufficient resources or power by which it can affect the environment or totally stabilize its relationship with this environment (Coser, 1965). One of the implications of the powerless nature of lower class groups is that they will be "open" systems. That is, they will not have the power to close off group boundaries clearly and hence, for any extended period, maintain boundary systems which will legitimately differentiate its structure from the structure of other groups or organizations. This inability to create a "closed system" of relations in a group, thus would make the group constantly open to various "predations." As we shall see later, the lower class family constitutes such an "open" system. In our community, household and family boundaries were constantly open and overlapping and varying in group membership. Such over-lapping made structural designation of family authority positions and allocation of responsibility very difficult. If the boundary problem is indeed the main problems of these groups, then the main set of predicaments confronting not only the family but groups at all levels of lower class social structure must center around problems of structural autonomy and identity bestowal. Thus, we may assume that the definition of who a person is and what groups have rights to his services, loyalty, etc., are problems which are never adequately solved among the lower class.

We may further assume that if such groups become "fixated" on the problems of autonomy and identity bestowals that the solution to the problem of proper structural articulation between groups is never adequately resolved. At this point the skills needed for survival in the lower-class context are not necessarily a set of interpersonal skills and pleasing personality which will allow the individual to interact in a wide variety of environments. This type of "middle-class" personality development is not relevant to the demands of lower-class life. Rather, the emphasis on limited personal commitment, the limitation of encounter to low risk situations and attempts to close off basic structural units in the community will make such skills and articulation of a highly vestigial nature. At the same time it will reward expressive and other skills which can demonstrate the fact that a person is giving unequivocal allegiance to a particular set of people.

On the basis of the above assumptions we can then state the proposition that strain will increase between segments as the structural complexity and the hierarchization of segments increase. Thus, we may assume if our chain of logic has been correct up to this point, that the integration of lower class community life will

be restricted to relatively low levels of social-cultural integration. To be more empirically specific the more stable forms of association to be found in lower class communities will be either at the family, kinship, or at most peer group level (Gans, 1962). In a like manner activities of voluntary association will be of a highly non-viable nature. The coming together of people in voluntary associations will be limited by the above positive restriction of the span of trust being restricted to persons or groups of a homogeneous nature and the exclusion of strangers.

As we shall see later on the basis of this study we can suggest that the organizational life of the community is confronted with a cruel paradox. If the lower class restricts its participation to a group of people much like themselves, then the fate of any organization must be that it will fall into the hands of a ruling family, peer group, or some other socially homogeneous clique. Only on this basis can organizational tension be reduced to the extent that it can be effective. At the same time, the leadership to this type of grouping will sooner or later alienate other groupings in the community, causing the withdrawal of those families or peer groups not in power. We shall also see later that the concept of an autonomous organizational office is difficult to maintain among the lower class in our community. The separation of "official" and kinship roles is largely impossible. This inability for most organizations to institutionalize nonkinship values creates everpresent potential, destructive forces in any grouping above the core level of social-cultural integration. Thus, we would expect the associational activity of the lower classes and the ability for organization to be potentially low. The lower class would then not have available to them long-standing structures by which to fend off the predations and negative definitions of the public culture. In short, what we are dealing with is a description of a group of people which Marxists have labeled "the lumpenproletariat" (Matza, 1967). The lower class, as described by Marx in the British setting, revealed an intense nationalism and reactionary posture; extreme individualism, and an inability to organize. This description presents a similar picture of the people we are discussing.

#### Variable Environments and Problems of Group Differentiation

There are sufficient data in the social sciences to suggest that the degree of differentiation as well as the processes of differentiation are highly dependent on the environmental context of the structure under consideration. The wealth of an environment has been shown to be a highly determinant factor in the level of complexity which a society can obtain.

This section will briefly indicate the general relationship between environment wealth and variability and level of structural differentiation. It will describe two extreme situations: one variable physical environments; the other showing the link between corporate size and controlled market processes.

Steward has presented data showing that not only resource paucity but also high variability of food supply was in large part responsible for the structural simplicity of tribes in the Great Basin of the United States. In fact, he demonstrates that variations in structural development and functional complexity were important factors in limiting the development of clans and political groupings among the Shoshone of Eastern Nevada. In a parallel way he has shown that the Owen-Valley Paiutes (located on the Western edge of the Basin Range Province) developed primordial clan structures, political leadership, and conceptions of property due in part to the environmental presence of a constant and adequate water supply as well as an ample supply of pinion nuts growing in the area (Steward, 1955).

Another example of the effect of the environmental stability of resource input on the potential complexity of social structure has been shown by Galbraith in his work The New Industrial State (1967). Expanding ideas found in his earlier writings, he argues that the structural complexity of contemporary large corporate structures is highly reliant on the normalization and stabilization of market patterns (for our purposes the "environment"). He argues that the implementation of a large technological apparatus and its organizational correlates is impossible in the context of the classic self-regulating market. Indeed, the self-regulating market (by its very definition) imposes certain structural limitations on the potential development and ability to plan on the units engaged in market interaction. The inability of producers to capture a large share of any given market leaves them basically at the mercy of the vagaries of market supply and demand. Galbraith argues that large corporations linked in an oligopolic relationship can persist only once a sector of the market has been captured and organized by the producing units. Another way of saying this, is that large corporate structures have as a prerequisite the destruction of "free enterprise" if the vagaries and variability of consumer patterns are to be such as to support large planning industrial units. Thus, it may be argued that the existence of complex structural units can emerge only in a protected environmental contexts where input has been stabilized in time and space.

If both the great basic tribal social structure and the structure of the large corporation are seen as extreme examples of the relationship between structural differentiation and environmental



control, then it is fairly easy to place the American lower class upon this continuum. We have already assumed that group processes can be sustained in the face of variable environments only if we are allowed to assume that groups, in some degree, restrict their activity to some hypothetical minimal level of operation. For example, the populations of the Great Basin could be maintained over a long period of time only on the minimum food supplies accessible to them. Population level as such would eventually decline through starvation and disease to adjust to this hypothetical minimum of food intake. Surplus food, as reported by Steward, by and large rotted on the ground due to the inability of the "productive units" to gather such food over the short harvesting season. We have argued in a parallel manner that if a group is to avoid crisis it can do so by positing structural expectations on a minimal prediction of accessibility of resources and personnel for group activity. Conversely, a group which can stabilize resource input by exercising power over the environment, given a certain level of wealth, can develop a much more differentiated social structure. Thus, not only paucity of resources but also the variability of resource input if left uncontrolled can place definite limits on the size, function and structural complexity of social groupings.

In the face of a variable environment an expanding population with restricted access to resources would produce a proliferation of many, small, highly segmented, lower order, groups. This would constitute the most efficient response to a variable environment. Such a tendency toward proliferation due to problems arising from environmental restrictions on potential differentiation would be further reinforced by the problems of integration already discussed in the previous section. Accordingly, in our case segments whose main integrative problem would be the solution of group membership definition and loyalty would be poorly prepared to handle the integration of these small segments into higher order levels of social organization due to environmental contingencies.

#### The Bearing of Lower Class Characteristics on the Stated Model

The data taken to test the above conceptual model have been drawn largely from a literature review of Herbert Gans (1962) and the works of Walter Miller (1958) and Oscar Lewis (1965). The purpose of this section is to report prior findings on lower class social traits and show how such findings are consistent with propositions deduced from the above model.

One of the primary characteristics of the lower class is their tendency to draw sharp distinction between insiders and outsiders (Gans, 1962, pp. 227-228). The primary unit of

demarcation is usually between kin and non-kin or peer group and non-peer group. One of the findings of this study, as we shall see, is that while such distinctions are ideally rigid, in reality, they assume a highly correlative and situational nature. That is, when families are not in opposition to each other, they are able to band together against some common threat. For example, sisters may fight with each other constantly, but the entrance of a non-kin third party is usually sufficient to link them against a "common enemy." Other "collapsing structures" might be a kin segment versus other kin segments, areas of the community versus other areas of the community, and the community as a whole against "everybody else." Thus, the tendency to create sharp distinction between "them" and "us" may be distinctive with the lower class in terms of the intensity, ferocity, and dogmatism exhibited in these situationally bound encounters. Such a finding is wholly consistent with the postulation of variable environments. The problems of identity bestowal and group autonomy as well as the proliferation of these many lower-order groups create a needed (if not an exaggerated need) to temporarily close group boundaries under conditions of threat.

In a similar way, the lack of integration above the most basic structural units can be seen to give rise to the following findings: (1) Various studies of lower class groups have shown that the level of social organization seldom rises above the family level of social-cultural of integration. Reinforced by the high risk nature of extension of trust, lower class units would show a greater tendency to spend more time with relatives and friends -- with people who are "safe" risks in the extension of trust and with whom there is much empathy (Bell and Boat, 1957; Axelrod, 1956). (2) The lower classes are notorious for their low participation in organizational life (Axelrod, 1956). This again is consistent with our postulates. First of all, interaction in voluntary associations must sooner or later require reliance on "strangers." This requires that trust be extended by the lower-class to a class of people who are more unlike than like themselves. This automatically places that lower class individual in a position where an extension of trust may not be honored and varying degrees of "social expense" encountered which might be potentially disastrous to the individual.

In addition, interaction with strangers requires certain interpersonal competencies which are neither rewarded nor developed in the ideal structural patterns of every day life as hypothesized above. Thus, to successfully operate in an organizational environment one must not only have verbal ability, he must also be able to take the role of a great many "others" who are essentially different from him. There is little in lower class life which demands the development of such elaborate skills. First, the main personnel problems of the group are dictated by needs to develop skills which show expressive

solidarity with the group. We have assumed that under the conditions imposed variable environmental input, the integration of these small groups into higher order units is impossible. It would be impossible because (1) the cost of trust default is high and (2) because skills which would be used to create "bridges" to dissimilar groups have very little reason for being. Thus, it has been observed that the lower class operates within a limited repertoire of roles (Gans, 1962). This may be partially so since interaction is carried out in structural situations in which the interacting units are basically homogeneous. It has even been argued but not yet demonstrated in this country that such conditions actually are linked to the linguistic patterns of individuals. Thus, it has been argued that in the lower class context great verbal elaboration usually gives way to restricted verbal codes based on a tight set of common, implicit understandings (Pernstein, 1960).

The restriction of the individual's world to such homogeneous encounters limits both his ability to take the role of the other as well as the adoption of diverse perspectives in interpreting the actions of others outside this domain.

As we shall see later, there is a distinct tendency on the part of lower class individuals to interpret activities on a strictly personal level. One aspect of this personalization of events precludes the perspective of men fulfilling official roles and being forced by the rational order or work activity in the bureaucratic setting to do things which they do not want to do (Lipset, 1959, pp. 97-131). As we shall see later, the ability of the people in the community studied to conceptualize the concept of "office" independent of the people holding that office was a constant problem. Thus, organizational office was seen as a position of power by which personal whim and advantage could be sought (Banfield, 1958). The perception of the universalistic, affectively neutral, etc., attitudes in the performance in the official duties was either constantly denied or not seen as operant.

Thus, the structural context of lower class life as well as the social-psychological characteristics produced by such a context produces a population segment which is organizationally inept. It can neither organize, nor freely assimilate definitions of behavior which ideally, at least, operate in formal organizational settings. The world seen from the window of primary group centeredness, high, affective involvement as well as the inherent distrust of anyone outside of that group, creates a population which is highly unorganizable and distrustful of most associational life.

Such a world view is usually not altered in the educational process. By the time most children encounter experiences which would lend to a "more expanded" world view, they either have become

totally alienated from the educational process or have left the educational system altogether. Indeed, the teachers most admired by the community that was studied were those teachers and administrators in the school system who had earned their "spurs" and who showed a commitment to certain children and families in the area of a highly personal nature. Inability to learn a bureaucratic definition of office through the encounter with teachers and administrators was further diminished by the fact that such encounters occurred when the family was "under attack" from the school system. Thus, by and large, the main encounter of these people with the school system (their main contact with "officials") was carried on under condition of threat and duress. As we shall see later the usual response of the people in this situation was to react in a defensive and hostile manner and to interpret the educators action on the basis of personal whim and dislike. Such an interpretation was not always wholly inaccurate.

The personalization of bureaucratic office behavior extends far beyond the educational encounter. Other studies have found that there is general distrust of government at all levels (Benfield, 1958; Gans, 1962). Personal corruption and greed are seen as the main motivating forces in the politician's life. In this study, recountings of contacts with such officials constantly validated this perspective. One could get a concession from a politician more easily on the basis of a personal relationship than on the basis of legally based expectations and definitions of that office. News reports of corruption at all levels of office holding in the country merely tended to reinforce and validate the personal experiences of the community's inhabitants.

### Conclusions

The picture of lower class social structure as presented in this research is one that is closely akin to the concept of the lumpenproletariat. This class of people is marked by a lack of formal organizational ability on their part and by their recalcitrance in being organized by others. It is a group marked by a high distrust of the outer world and by a definite fear and avoidance of authority. This world view it has been maintained is usually gained from a small isolated group orientation. Anyone outside of this group is looked upon both with fear and hostility as being potentially dangerous and exploitive. For this study, however, the nature of the community context creates a certain orientation and perception of the world which creates on the population's part an inability to relate in any meaningful and profitable way to a rational bureaucratic structure. This inability then has two implications: (1) through their own

experiences with such structures (as it has been conditioned by the needs of adaptation to a variable environment) they have very little knowledge or sympathy with public culture or its institutional representatives, and (2) their picture of the world and their powerlessness creates a distrust and fear of all forms of authority. Thus, they have not developed the skills by which they could manipulate such institutions for their own benefits. They have no way to get their share of the pie. At the same time, the requisites of their environment do not create needs from "normal" social skills which are prerequisites for "making it." Enduring situational contexts are not present in this restricted world in which these skills could be acquired. Thus, through the unique demands put upon the lower class to maintain some semblance of a structured life in the face of a variable environment, plus their exclusion from the knowledge to manipulate and overcome that environment, they are people who are uniquely unprepared to successfully operate in American society at this point in time. In addition it is the writer's opinion that this is one of many "vicious circles" which are so glibly referred to by those who are in charge of remedial activities directed toward the lower classes. It is the explicit assumption in this research that nothing in the internal life of the community can break this circle.

## FINDINGS AND ANALYSIS

### The Physical Setting.

The community will be called Potter Addition. Potter Addition lies some two and one half miles southwest of Urbana, Illinois. It is a fringe community relying upon Urbana for the most part for schools, welfare services, recreational facilities, occupational opportunities, and access to economic goods. It covers an area of approximately sixty-four acres in the form of a huge rectangle, with the longer axis running in a north-south direction. It is surrounded on three sides by land which has been given over to agricultural use. The fourth boundary is formed by a small creek which in recent years has been converted into a drainage ditch for Urbana. The waters of this drainage ditch at one time supported abundant wildlife in its waters and on its banks. With the urban sprawl, however, and the pollution of the small creek, very little wildlife is now found on its banks.

The surrounding countryside gives Potter Addition a distinct rural appearance. This rural nature is a conscious factor in the life of the residents of the area. It is in large part seen as a good place to live because of the accessibility of a rural environment. The rural theme is consciously played out by many residents

of the area. The visitor notes immediately the presence of livestock and relatively large gardens. These gardens range in size from one-sixteenth to one-fourth of an acre. The presence of livestock and gardens constitute a symbolic commitment to the rural roots of the population. The gardens, as well as animals raised, are used to supplement the living expenses of a segment of the population.

The presence of gardens and the raising of livestock are not the only unique qualities which present themselves to the newcomer. Indeed, more striking than either of the above features is the presence of junk yards and a high percentage of houses which are either blighted or in various states of slow decay. Within the sixty-four acre area there are no fewer than seven garage-automobile junk yards. They cover approximately ten per cent of the community's land area. They are, perhaps, the one dominant and defining feature of the community. While most of the junk yards are restricted to the southern half of the community, the largest of these is located in the center of the residential area. There is an informal conception of the natural area of the community held by many residents. The southern area, located near the Urbana garbage disposal plant, is looked upon as a "natural area" for unsightly junk yards. The northern portion of the community is indigenously defined as a residential area. The owner of the one junk yard not located in the south is object of constant friction and hostility since his junk yard is built in an area which is informally regarded as residential.

Junk yards fill the area with an imagery of clutter and decay. This imagery is further amplified by the presence of rusting and relatively ancient cars (often with windows smashed) parked in driveways, mounted on blocks at the side of houses, or parked in the back yards of private residences. The presence of these cars as well as the junk yards indicate, as we shall see later, a central life concern of the people in this area. The repair, reconstruction, and cannibalization of junk cars to create a running automobile is a central focal point of male leisure and a dominant life defining focus for males of the area.

The gardens and junk yards in the end, however, merely serve as background for the most striking feature of the community: its housing. Visual inspection of the housing perhaps tells the visitor as much about the people living there as does any other physical characteristic of the landscape. The quality of the housing varies a great deal. At the risk of overgeneralizing it can be stated that the quality of housing declines in a north-south gradient. The northern section of the community is filled with the better housing to be found in Potter Addition. The housing is, on the whole, larger and better kept up. The age of houses in the northern

area is difficult to ascertain due to the phenomenal masking effects of modern aluminum siding. Many homes in this area are of the quality of housing to be found in working class suburbs. Roughly ten per cent would fit into this category.

The large majority of the housing in Potter Addition consists of small dwelling units in various states of arrested disrepair. The external features of the housing show signs for the need of paint jobs or new tar paper resurfacing. They are by and large small frame houses averaging three or four rooms. The general external appearance, however, is in a great many cases misleading; the insides of the homes are usually comfortable (if not overcrowded) living areas. The furniture in these homes vary in quality but appear to this writer to be usually older furniture and at times either secondhand or furniture which has been repaired or recovered by the residents. It must be emphasized that the writer's experience required continual readjustment of total housing imagery when the inside and outside of houses were compared.

Exposure to the community over a short period of time alerts the casual observer to other features of this "middle range" housing. There are tell-tale signs of serial processes of construction by amateurs. The telltale disconformity of eave angles and the non-meshing of walls and roofs on two separate sections of a house give evidence of the jerry-built history of these dwelling units. Often two different types of external coverings will clothe the same house. Inquiry as to the house and its history creates a series of exotic stories, stories which tell a history of men being thrown back on their own meager skills and resources and having to make do with these in order to obtain minimal shelter. The building process itself has often taken exotic turns. Several houses have been created by setting two separate dwelling units flush to each other, knocking a doorway in the common wall, tar papering the area where the two roofs come together, and increasing the available living area for a growing family.

Many of the aging residents have ceased to build on to their present housing. However, the tell-tale signs of serial housing construction which was carried on in the late 1940's and early 1950's is still in evidence. The decision to build onto a house was by and large determined by two factors: (1) the size of the family and its rate of growth, and (2) the availability of cash reserves at any given time. The buildings in a certain sense are tributes to the creative, pragmatic and "frontier-life" orientations of the population. In a great many cases construction materials were used at a moment's innovation and were usually picked up through bargaining, gifts, or at times (it has been alleged) outright "midnight requisition."

Nowhere is the creativity and past poverty of the residents more clearly shown than in roughly the bottom ten per cent in adequacy of housing. These houses were some of the earliest built in the area. Their state has changed little in twenty years. From these houses, one can deduce that Potter Addition in its early days looked much like the Hoovervilles of the 1930's. Some examples of the housing in this grouping will perhaps clarify the point. One house consists of two railroad boxcars set parallel to each other joined by a common door and constituting a living space for five people. Another house (long since abandoned) consists of six hexagonal chicken coops joined in such a way as to create one large living area. A third example is a house which has sat on three different pieces of land in Potter Addition during its lifetime; it originally was a pigsty. Perhaps one more structure should be listed although it is of more recent origin; this is a quonset hut apartment house which houses four families. These houses represent the most exotic structures in the area.

In conclusion, the housing, the junk yards, and the gardens are accurate reflections of the people, their interests, their life styles, and their economic level. As such, the physical setting of Potter Addition when observed in even the most casual way reflects the life processes that have gone on and are still continuing in the community.

#### Social Demography and History

Potter Addition has been settled by three different waves of migrants in the past forty years. The first wave settled the area during the time period of 1927 to 1939. These migrants came from Urbana proper and were by and large residents of that community's "fringe" as it was defined at that time. The movement of these people to Potter Addition thus did not represent a disjunctive shift in life style. It did not represent an upward shift in their stratification position vis-a-vis the larger community. They were usually near or at the bottom of the social structure at that point in history. Nevertheless, they were still part of the Urbana social structure. Today, with a few exceptions they remain in that position.

The main goal spurring migration during this time, which spanned the depression years, was on the whole to own one's own land where it could be bought cheaply. On this land they could have a home and garden which granted them some security from the economic conditions of the times.

The second wave of migrants entered the area from 1940 to 1949. Undoubtedly the Second World War created the conditions by which the migration channels were reopened into the area. During this period a distinctively different group of people intruded into the



area. They were by and large of southern "hillbilly" stock, migrating from southcentral Kentucky and northcentral Tennessee. There were surprisingly few Appalachian immigrants whose paths had followed a line from Appalachia to Akron and then to Cleveland or from Appalachia to Indianapolis and then to Chicago. The migration from southcentral Kentucky to Urbana during this period had been established thirty years earlier by the first influx of immigrants into the Urbana area. The dynamics of migration seemed to follow a distinct pattern. That is, earlier immigrants formed beachheads for others in their kingroup who would come later.

From informant reports, what attracted these southern immigrants to Potter Addition was cheap rental housing. During this time a series of ten houses had been built by a local entrepreneur, and these served as the magnet which originally drew these people to the community. The migrants first rented in Potter Addition and then bought land and housing there when times got better.

The people who came to this area were essentially "rural proletariat," little acquainted with the values, mores and expectations of the local culture. Their "low-life ways," "drunkenness," and "immorality" soon labeled them as an outcast group in the Urbana area. The reception of the migrants by the founders of the community was at best ambivalent. Since the newcomers had settled in the lower area of Potter Addition, they were isolated by a distance of some fourth of a mile from the original settlers. This distance was lengthened socially by the demonstrated difference in life-style of the newcomers. This social distance was in time shortened by the inclination of the old timers to help out others in time of need. This "help your neighbor" approach was only one factor which created a tenuous integrated community at this time. A second more powerful set of factors was located outside of Potter Addition. Contact with law enforcement agencies, welfare agencies, and the schools in Urbana soon earned all those residing in Potter Addition the name "white trash." This process of stereotyping and stigmatizing created problems of integration for the two population waves which are still seen even today. On the one hand, the old timers probably regarded the institutional stigmatization of the newcomers as both appropriate and correct. On the other hand, ambivalence was generated by the ecological and community based nature of the stigmatization. Thus, while the entire population of Potter Addition was equally classified as members of a stigmatized community, the older residential generation in its own way attempted to isolate itself in both activities and sentiments from the unacculturated newcomers.

This was the state of affairs until the middle 1950's. At this time, overcrowding within Urbana and the rise of land prices in the area created a third wave of migrants. This wave was

relatively minor. The third wave consisted mainly of stable workingclass families. They were seeking home ownership and a rural environment as cheaply as possible. This group was consistently oriented towards the larger community. It took its cues and sought prestige in the eyes of the parent community. The third wave eventually began to represent Potter Addition in the councils of Urbana. Their lack of tenure in the community, their lack of deep kinship relatedness, and their outward orientation from the community, however, limited their access to acceptance among earlier residents. While this group has usually been the public front for Potter Addition, they represent in essence leaders without followers; community elites without a constituency. Thus, today they are seen by the inhabitants as being in Potter Addition but not as yet of Potter Addition.

The last major population segment to be discussed are the children of immigrants who have now been raised in the community, achieved adulthood, and are now raising their children in Potter Addition. For these people the security of Potter Addition (as it is) and their exclusion from the institutional life of Urbana have made them chauvinistic defenders of their community. In one way they know little more than Potter Addition. What they know of life outside of Potter Addition is fearful and threatening enough to drive them back into the arms of their natal community. Thus, we have in Potter Addition not only elements of social structure based on different social types, as determined by place of origin, but we also now have the beginnings of a "culture" which is being passed on to a generation of people who have known little else but Potter Addition.

#### Work and Career Orientation

Several writers have alluded to the tendency of lower class individuals to have variable occupational histories (Miller and Form, 1951, pp. 539-605). The occupational histories are variable in three ways. First, the early period of job trial and searching behavior is extended. Secondly, the progression of jobs taken by the individual seldom are linked in any progressive career manner. That is, they show no "internal logic of development." For example, a person may first take a job as a filling station attendant, then as a construction laborer, then as a dishwasher, and in time may end up working once more as a filling station attendant. None of the above jobs show a continuity or some internal unilineal consistency in job content nor stability in the physical situs of employment.

The above instability of work career was found to be a model work pattern for many in Potter Addition (especially in the early years of gainful employment). Usually stabilization of a person's

occupation and situs did not come until his late twenties or thirties. The data have been interpreted by this writer as indicative of certain strategies developed by individuals in an occupational setting in which they have little leverage on the labor market. The leverage which might have been available to them could have come in either of two forms. First, individuals might have a skill which would allow them some form of a bargaining position on the market. If they lacked this skill, they might have been eligible for union membership, and in this case the collective leverage of the union might have accomplished some degree of job stability. However, the large majority of males in this community had neither type of leverage. Having left school early, they did not have the skills nor the prerequisites for obtaining skills which would have allowed them to stabilize their occupational life chances. Because of these lack of skills, they were usually employed by either marginal farmers or marginal entrepreneurs. Since these businesses are highly resistant to unionization, employment in these marginal enterprises deprived most Potter Addition residents of job stabilizing benefits of union protection.

In the face of such small leverage in the job market, the most efficient occupational strategy would be not to specialize but rather to develop a shallow but wide ranging set of skills. The aims of such a strategy would not center on developing a stable career pattern within one occupational category. Rather, the primary aim of such job behavior would be merely to minimize the periods of unemployment. As such, a semi-skilled career orientation could actually be dysfunctional for these purposes. Indeed, to tie oneself to a single semi-skilled position would probably increase the length of unemployment. Thus, the needs of the lower class worker in an unaided situation, it is argued, would be diametrically opposed to the establishment of careers. Indeed, the idea of a career is that a career presupposes an orderly progression of roles would assume a stability in the occupational environment which does not exist for the lower class.

The upshot of wide ranging strategies of job seeking activities would preclude an emphasis on specialization. Indeed, it is argued that the lower class worker of Potter Addition comes to define his job worthiness not in terms of any one set of skills, but rather in terms of personal qualities such as flexibility and adaptability to a large variety of occupational situations. It was generally accepted by the people of Potter Addition that a man was better off being a "jack of all trades." While it was ideally admitted that it was better to have one job in one place for a stable period of time, the person looked up to was nevertheless the person who could do many things in a

"passable" manner. This hiatus between verbalization and sanction, as we shall see, is not uncommon in many areas of life in the community.

The wide ranging, job searching strategy and the high value placed on the jack-of-all-trades was reinforced in certain non-occupational sections of life. The unstable work histories tended to exclude the individuals from full access to the cash nexus. They could not exchange cash being gained from a stable occupational career in order to employ specialist services in various other areas of activity. In the absence of large cash reserves, the person was thrown back onto his own talent and resources. Thus, there was a proliferation of do-it-yourself activities. The jack-of-all trades philosophy which served to rationalize this occupational behavior also operated in such a way that he involved himself in many "do-it-yourself" activities. If a car needed repairing, the individual, rather than taking it to a garage, would rely on his own meager knowledge and that of his neighbors to get the car back into running order once again. The same was true for house repairs, plumbing, or some other form of repair or construction.

A majority of the people in the community regarded stable occupations or professions with a mixed envy and distrust. The quintessence of occupational stability, the professional, was looked upon with both fear and disdain: fear because of the power which he held over them, and disdain because of the belief that wealth and possessions derived from the profession were somehow illgotten or otherwise illegitimate. While there were variations of this theme, the professional was usually viewed as either being dishonest or non-manly. That is, his rewards, centered on non-physical activities, were somehow "tainted." Such an orientation toward orderly careers can to some extent be written off to envy. However, the writer feels that this sentiment was also derived from a specific world view and evaluation as to what the nature of "true work" really was. The view of professionals held by much of the population may be understood in terms of the sociology of knowledge. That is, the life experiences of this group defined work, the only work they intimately knew, in terms of highly personal, "volatile" qualities which were linked to physical effort and bodily energy. Survival in their occupational jungle was accomplished not so much by specialization but by doing a great many things "moderately well." No one would deny, of course, that professional people were "better off," "smarter," etc. However, the view of the legitimacy of these rewards as they related to occupational success were never completely accepted.

This state of affairs created ambivalent situations for children. Children were constantly told to work hard in school so they could become doctors, lawyers or engineers. On the

basis of my observations, however, little reinforcement was given to these verbalizations. More often than not a child would be praised more for his mechanical skills than his intellectual ability. He would be praised more often for his skill at auto repair and "fix-it" activities than he would for educational excellence. Indeed, the view of education was transmitted in a very ambivalent manner. While few would deny the virtue of a good education, even fewer had experienced in their lives positive encounters by which that education could be put to use.

Success on a job and indeed pleasure derived from a job were usually gained not from the display of technical skills but from the set of social-emotional relations with others on that job. Here again, the perception of work not as career but as short-term oriented, expressive situations tended to separate this class from what might be termed middle-class orientations. Thus, the locus of work and talent was seen to reside in the personal and bodily attributes of the actor; the idea of the worker as an efficient bearer of a specific and integrated set of skills was constantly underplayed.

We may thus conclude that orientation of the individuals towards work in our community has its roots in the unstable relationship which he experiences on the labor market. These experiences are of such a nature that they do not validate a career orientation for the lower class worker. Indeed, his experiences as to what works in job hunting and holding can only lead him to regard careerists with suspicion.

This study further concludes that the worker's approach to his work and his perception of other occupational categories cannot be written off entirely to envy or status frustration. Indeed, his encounters on the occupational market validate a certain conception of work and a world view which is deviant to the extent that it is anti-career and anti-specialist.

#### Consumer Patterns

The variable input of financial resources into the family was found to place households under continuous strain. Unable to sufficiently maintain themselves through channels open to the average consumer, families in Potter Addition developed a set of strategies to "make it." There was first the tendency, as noted above, to do as many things as possible which normally require financial resources to be committed to the purchase of expensive services. The individual solves this problem by employing skills found either within the family or among friends or other people in the community. What cannot be obtained by

formal economic exchange is obtained through informal and personal channels. Reliance on friends, near kin, and peers for financial aid during times of economic crisis was found to be a general pattern of economic adjustment in this area. Just as personal qualities and relationships acted as supplemental buffers in competing on the job market, personal contacts were utilized to obtain funds or other types of aid during periods of shortage. Such funds were usually granted with the implicit understanding that such acts of aid would be reciprocated when the donor found himself in a future financial state of need. The perpetual nature of financial crisis did not always make such reciprocity possible. Sometimes the instrumental use of kindred and peer group members linked with the inability to reciprocate in time of need often placed kinship and peer group relations under unbearable strains. Often it would lead to serious fission within the extended family or friendship group.

The paucity of cash resources and the variability of those resources have made Potter Addition a "second-hand" culture. Much of the furniture and other family property was obtained second-hand. The quality of this second-hand merchandise usually varied. One often gained the opinion that in dealings which involved trading or barter, the object being bargained for was often of secondary concern. Indeed, to get a good second-hand object cheaply was seen to reflect as much about the accumen of the person who made the deal as it did about the utility of the object itself. There was a general motto of "why buy something new when you can get the same thing second-hand and at half the cost!" Such a motto does not point out merely ancillary deviations of life style; rather, it more or less states the norm of consumer practices for many of the families in Potter Addition. Thus the women of the area were constantly denizens of garage sales, second-hand shops, and on occasion, Salvation Army stores. When something was bought new, it would more often than not be bought at one of the several discount houses in Urbana.

Such economic behavior cannot be classed as purely "rational" market activity. The search for the deal itself does not preclude such activities from being a rational market pattern. However, when one places as much emphasis on the process of obtaining objects as they do on the object as an end in itself, such consumption becomes more than an instrumental act. It would, of course, be possible to write this off as some deviation from normative market orientations. However, to the extent the object under exchange is of secondary nature; the acquisition process is treated as an end in itself.

In a similar way, exchange in Potter Addition takes on a "ritualistic nature." More than objects are being acquired; reputations also are at stake. The consummation of a deal may

involve a personal victory; this personal triumph may be as important as the acquisition of the object. Nowhere is this dual nature of exchange seen better than in trading and "do it yourself" activities. If one repairs an automobile, he has done more than repair a machine. He has displayed a competence. A competence, by the way, for which he would otherwise not be rewarded in the everyday life of work. It may be hypothesized that the activity of trading and bartering, car repair and "handy man" work are arenas of competence display by which a man can gain recognition in the eyes of the community. Thus, the community in its consumer activities provides an arena and an alternative set of standards by which esteem is gained which could not be found in the public culture.

This ritualism reaches its greatest height with those who own horses. Here the fine art of horse trading is the perfect arena for the display of male good sense. Indeed, the vicarious joys of horse trading provide a perfect arena for the display of competencies not rewarded in the males' present occupational circumstances. At times the trading game becomes as vicious as anything this writer has ever observed. Indeed, in the eye of the horse trader the really good trades are ones in which something is put over on the other horse trader. At the risk of being flippant, it is the writer's opinion that the closer such activities verge on outright theft and grand larceny, the greater is the joy of the person consummating such a deal. James West (1945) has in essence made the same observation in his study of a small Missouri hamlet in which he also notes the propensity to trade horses and to some extent automobiles as a male leisure pastime.

So far we have probably not communicated the pain, panic, and anxiety which comes from living in a situation where incoming resources are not predictable from week to week. If, as we have suggested, people were to scale their desires down to a subsistence level, much of the problem might be alleviated. However, this is seldom possible. While some men may make as much as \$6,000 a year, that salary may go to support two adults and four children and to pay off numerous debts that have accumulated. What makes things even more desperate is that much of the money may be earned during a six or seven month period. The other months are, indeed, lean. It may be speculated that such variable resource input makes long term budgeting all but impossible. How can one budget when income from week to week may vary as much as sixty to eighty dollars. When attempts are made to build up savings, which might even out the peaks and troughs of income variation, they are usually seen as being wiped out by forces beyond their control. Thus, sickness, which seems to be much more prevalent in the area than others in which the writer has lived, is a constant threat to savings. As one woman said, "We don't save anymore. We tried to when we were first married, but it seems like every time we did, something would happen and we would lose it all."

Part of the threat to accumulated savings comes from the collective demands which near kin place on the nuclear family's resources. It is not uncommon for kin and their families when in need, to live in the household of another relative for as long as four months. Their circumstances usually do not enable them to contribute to household support during these times.

Another source of strain on family resources comes from the proclivity among the young to divorce or separate. Usually the daughters then return to their mothers and receive support from their family of orientation. This variability of household composition and its openness to demands of relatives increases the variability of resource input by making it impossible to predict the needs of the household unit over a given period of time.

One source of aid which is utilized to normalize income variability is the use of credit. The one store in the area is run by a woman who extends credit to many people in Potter Addition. She, in fact, admits that it would be difficult to keep the store open if she did not extend credit. She is known, respected, and even loved by many of the people because she "carries families" during times of unemployment. It is not uncommon for families to run up bills as high as three or four hundred dollars during those periods of peak unemployment during the winter. This woman is not seen as being particularly exploitative of her customers; rather she is regarded as many as a valuable community resource.

Another source of credit is the loan company. Many are in constant bondage to loan companies. Many families in the area have not known a time for many years in which a payment to a loan company was not due. The loans are usually taken during the winter and early spring in order to see a family through seasonal unemployment. Income gained during the good months of employment usually goes to pay off outstanding bills to grocery stores, loan companies, and to catch up on back rent. By September a family may have paid off all debts except for the loan companies. By November the cycle has started over again. There is, therefore, for many families in the area an annual cycle of crisis and despair. This cycle to a great extent precludes planning and orderly allocation of economic resources (and concomitantly a stability of life style).

Presently, relatively good times have come to Potter Addition. The writer has been told that in the past almost every family in the area at one time or another has been on relief. Today, only four families in the area, to this writer's knowledge, are on any



type of permanent relief. Many of the "older" families have been able to find stable employment at the nearby university. For many, life has never been so good. They will be the first to inform you of this and to regale you with personal stories of past hardships.

This infusion of "wealth" has not, however, created on the whole a marked change in life style from that of the 1940's. Many do not believe that good times are here to stay. The majority still operate with an implicit "depression" or "hardtimes" psychology. The new wealth among some of the young families has provided a new life style, but these are few in number.

What is remarkable is that this wealth has not created a convergence with urban middle-class life styles. It has rather created a condition for the accumulation of certain possessions which maintains the person's commitment to the rural way of life from which he has come.

An example of the above is the fetishism connected with land and land ownership. The "hunger for land" transcends the mundane desire of every man to own his own home. The ownership of land represents for many a base of autonomy from intruding outside forces. The ownership of land is seen as a base of security and a validation of self-worth and citizenship. The ownership of land is often a stated goal related to the rural origins of the populations. Land is something that many of these people have always wanted since the time they or their parents were hired farm laborers or when their family was driven from the land early in this century. It thus represents for many a symbolic tie to the "idyllic" rural life-style, a life-style and a way of acting in which most feel comfortable and at ease.

For others the desire for land represents an attempt to supplement their income. About sixty-five per cent of the lots in the community hold more than one dwelling unit. Many of these dwelling units are inhabited by relatives and dependents on a permanent basis (or temporarily by relatives who have fallen upon hard times). In several cases the accumulation of relatives makes the adjoining acreage almost a "clan gathering." The high rate of divorce makes land and housing a useful commodity in that divorced or separated daughters may occupy a house near the parental household. In many other cases the rent gained from extra houses is a useful supplement to annual income. However, the priority of housing needs of "down on their luck" kin sometimes takes precedence over the purely rational presuppositions of "landlording." Often such loyalty to kin decreases the income potential of property ownership.

In summary, there is a disjunction especially among the older families between what they own and how they operate in daily life. Despite this relative infusion of wealth they still look for the deal, the steal, the quick buck, the spontaneous event which results in a "killing." This is a very important part of their lives. The very survival of the deal points to a function other than the purely adaptive and economic.

The fear of a new depression or crisis, especially among many of the older residents is a constant factor which shapes their life style. The random uncontrollable mutations of occupational career and family instability is still the present reality. "Affluence" has not seemed to change this in the last twenty years. Future expectations are still posited on the postulates of variability and scarcity rather than those of affluence and comfort.

We have tried to show in this section the economic foundations upon which social life in Potter Addition is posited. Variability of physical resources, as well as their paucity, requires certain perceptions of the outside world in order to assure some modicum of survival. The openness of primary structural units creates an even more variable environment since much of the variability of resource input is co-defined relative to group and structural arrangements which themselves vary in composition. Thus there is a double variability here which shapes the economic life of the community: the variability of resources and the variability of the composition of the unit which utilizes these resources.

#### An Outline of Community Social Structure

1. The World of the Sexes. Men and women live in different worlds in Potter Addition. To a large extent this bifurcation has its foundations in the separate audiences to which they respond. Men are largely tangential to the relevant activity of both household and community. The arena of relevant activity for men in Potter Addition is the work place, the male leisure group, and the bar at which to drink.

The isolation of the male from the ongoing life of the community has several sources. First, the early age of marriage (about 17 to 18 years old) and the occupational instability of the young man create from the outset a vulnerable conjugal unit. His inability to validate his role in the family authority structure by "bringing home the bacon" is a constant threat to his status in the nuclear family, for his unstable employment places his family in constant need and crisis. Aid during times of employment crisis usually comes from the wife's mother. Usually the wife's family makes

available housing which it owns either on a low-rent or rent-free basis. Ordinarily the mother-in-law has free access to the daughter's household and in time takes a hand in household decision making. On the basis of aid rendered, the wife's family establishes through reciprocity some basis for decision making within the daughter's nuclear family. Because of this loose integration of the two households, the family in Potter Addition seldom approximates the modal neolocal, independent, nuclear family.

While the mother-in-law's role as critic and decision making head of the daughter's household is a sporadic activity and is seldom seen as legitimate, it still nevertheless occurs. The financial leverage which the mother's family holds, the husband's demonstrated inability to provide for his family, and the definition of the household as "female territory" sooner or later excludes the male from many household activities and decision making processes.

The role of the male as head of the family is basically a perplexing one. He can be said to have authority in one way and, at the same time, to be powerless. While he is never excluded from the semblance of decision-making processes, the power of the wife and mother dyad is in most cases sufficient to override any position that he might hold on a given issue. He is caught in a double bind situation. He is expected to "rule" the household by the fact that he is a male. At the same time, however, he is seldom given a voice in the making of crucial decisions. His authority is usually circumvented by the mother-in-law.

The husband thus assumes the position of being an affine to the basic female core of relatives who constitute the core kinship structure in the community. In that he is evaluated as an affine, his main role is seen as mainly a companion to the wife. He is the sexual cohabiter, a husband, but not an instrumental leader. He is the "cock of the walk." He rules the household by substanceless fiat. His rule at times approaches tyranny and the wife will submit to his whimsical dictates and posturing. But here is the paradox: while he maintains the form of family leadership, he is constantly bypassed when issues of long range family policy arise. He is especially bypassed when decisions have to be made which deal with the children. He is in this case a basic appendage to the three generation, matrilineal dominated, family group. If one were to evaluate the powers of the father in the household, he would have to be seen as possessing a veto power. He can be a main force in the obstruction of long term decision-making processes. However, in varying degrees he is seen as lacking power or "comptence" to contribute to the decisions which affect the family's future.

In addition to the occupational factors which relegate the husband to a fairly impotent role in family decision matters, the

demography of his situation contributes to his exclusion from the family. Potter Addition is inhabited by a basic core of non-mobile families. When there is mobility, it is more likely to be among men than women. There is a tendency for women to settle and remain near their mothers. Marriages are in many cases effected by the male "marrying into" the family and the community. A large portion of the kinship groupings in the community consist of multi-generational care of females married to "satellite husbands." The ease of availability to each woman of a core of potential female allies contributes to the asymmetry of household decision making processes already alluded to.

The "satellite" status of the male is symbolized in terms of reference. On numerous occasions a man will be referred to as "Sheila Stoner's husband." In this case the name Stoner is the woman's maiden name. Even after ten years of marriage many women continue to be referred to in the community by their maiden names, and the husbands are still often referred to only by their relationship to them. This and other examples suggest that there is in the community an implicit rejection of the husband as a significant member of the kinship group. He has little or no status independent of his wife. He is seldom defined in the community as the effective head of the family; this only comes in later years when he has established tenure in the community.

Thus, to understand the basic powerlessness of the husband and his exclusion from community and family activity, one may at best see it as a "conspiracy" in which kinship related factors, mobility, residential and economic contingencies relegate him to a secondary status in family and community.

2. The World of Women. Despite the increasing tendency of women to seek employment outside of the home, the world of women and the world of Potter Addition are by and large coterminous. The integration of community and female based kinship groups creates a structural core of related females which carries on the business of every day life in the community. The segmentary nature of social groupings in Potter Addition results from the fact that female kindred (and hence satellite husbands) tend to associate with each other to the exclusion of non-kin. The world of the female is relegated by and large to the task of raising children and mediating relations between her nuclear family and other significant female kindred. However, a relatively low amount of time is spent in supervising older children. As long as pre-school children are in the home, this reduces the mobility and potential hours spent in visitation. For older women, however, much time is spent visiting with other females during the day. While the usual composition of these female visiting groups is heavily biased toward kin, various other women who are not

related are also included in these groups. These female coffee groups set up patterns of communication which "integrate" the various discrete kinship groupings in the community.

The conversations which go on in these "coffee klatches" are by and large restricted to community and family related matters. Various forms of gossip are freely circulated during these daily get-togethers. The content of conversation is much like that reported by Gans in that national news or news outside the community is seldom a central focus of attention (Gans, 1962, pp. 74-104). When such matters are brought up, they are usually inserted into the conversations in order to emphasize the uniqueness or the moral superioristy of their family or of life in Potter Addition. In general the topics of conversation deal with who has gotten married, who has had children, which has occurred first: children or marriage, comparing notes on childrearing, and discussing any recent scandals.

Most of the formal organizations, as we shall see later, are female dominated. Assumption of leadership roles by older females extends to the various formal associations in the area. While men have in the past played roles in the founding of organizations, they are usually supplanted by females in a short time. The only exception to this female hegemony in Potter Addition is the Volunteer Fire Department, an activity which by its nature is the sole domain of males.

In addition to women holding key leadership posts in the family as well as the community, this female dominance is further buttressed by a diffuse unity of women in a common identity based on their sex. Thus the writer has observed several times men being "ganged up on" by a group of women in order to enforce the will of one of their number. In most public confrontations of this nature there is usually a joking relationship which pervades such interaction. However, it soon becomes apparent that while the style is in good humor, the aim of such joking is far from humorous. This tendency of women to support their "own kind" is another factor which tends to separate the world of the sexes and to limit interaction between them. The men usually avoid extended interaction with such groups of females.

While female dominance is a central characteristic of life in the community, it is by no means an overwhelming force. Certain factors limit the women's ability to be totally dominant and to act as an untrammelled critic in family affairs. First, the male is not a totally captive audience held tightly in the grasp of women and their reference groups. He does have places and groups to which he can flee to avoid the full brunt of female criticism. While a woman may at times enter these arenas of the male subculture, she does so at the cost of some internal sense of dignity and proceeds at the risk of being evaluated in a negative way in the eyes of her fellow females. Going into bars to look for one's husband is

looked down upon by all in the community. It is seen by many as an implicit admission that the woman has lost control over her husband and, in extreme cases, has ceased to monopolize his affection.

The second factor which ameliorates the satellite standing of husbands is the recognition of the technical legitimacy of male authority. The cloak of female dominance in crucial decision making processes is not worn easily. Many women resent the leadership roles which they often see as thrust upon them by the default of their husbands. The husband is constantly subject to some potential form of criticism by the wife for having to "do his job." At the same time many females are ambivalent since they also realize advantages of having power in running a household.

In summary the world of the sexes in Potter Addition is segregated through the mechanisms of differential association, differential areas of interests, and spatial separation of arenas for competency display of the sexes. The unique configuration working within the community creates a "de facto" arrangement by which women are dominant. At the same time such female dominance is attenuated to such an extent that males are not totally excluded from family and community processes. There should be no mistake, however, that in crucial testing of dominance during periods of crisis the woman is in a much better strategic position to enforce her definitions of the situation.

3. Family and Kinship. The discussion of the world of the sexes lays the foundation for a discussion of the family. To repeat, the modal form of the American family as suggested by Parsons is not applicable to this community. The relatively isolated, neolocal, alineal, nuclear family is found only in a greatly modified form (Parsons, 1954, pp. 177-197). The modal family type for Potter Addition is a variant of an extended family, with lineal overlapping of nuclear family units along female lines. The contingencies of "matrilocal" residence, the asymmetry of accessibility of kin skewed toward the female line, and the non-viability of the husband role especially in the early years of marriage are all central defining features of the family in Potter Addition.

A second factor which elaborates and reinforces the tendency toward matrilineal dominance is the high rates of disorganization found in these families. A high proportion of families are "broken." Either through physical absence or role default many families do not have a full contingent of family roles through which to operate (Lewis, 1967, pp. 330-368). For example, an alcoholic husband who has defaulted in his responsibilities creates problems for the organization of family life.

Upon a few occasions neither parents nor lineal surrogate carries out parental responsibilities. In these cases the collapse of the entire family would be imminent. Under such situations, a sibling of one of the parents (usually on the mother's side) may temporarily take over the parental role. However, because the uncle or aunt's resources usually are limited, the oldest child goes to work to support her siblings and assumes the parental function of the family. The assignment of such a surrogate role to the child is based more on seniority than the sex of the child. Usually the role of surrogate mother extends beyond the time that her siblings are economically dependent upon her. She becomes and remains a "mother" to her brothers and sisters as well as to her own children.

One source of default is found in the young wife's emergence as an autonomous household head after the birth of her first child. Through a series of emotional and economic ties to the mother, she may be blocked from the role of responsible adult. In essence, the young wife never sloughs off the definition of child in the eyes of the mother or, as a matter of fact, in her own eyes. Many times child raising and socialization decisions are made by the grandmother and not the young wife. In fact, in many cases the newborn's status as grandchild is more relevant than his status as child. Such a "childhood status" for the young mother forms a set of buffering relationships vis-a-vis the grandmother which encourages (if not rewards) the default of adult socializing activities on the part of the mother. More often than not, the grandmother takes over the job of setting standards by which the grandchild is raised. Since the young wife has not only an ambivalent status with her mother but also is subject to economic leverage on the mother's part, the wife seldom experiences autonomy in her own household. The young wife is in reality reduced in many cases to a position of being her children's sibling.

The role of mother, as a distinctive status, is seldom experienced as a separate status by many women. The "normally" defined role of mother is usually collapsed and absorbed into the role of grandmother. Instead of a "normal progression" of child, adolescent, wife, mother, grandmother, the life career of many females jumps from "sibling of own children" to that of "grandmother-mother." The "normal" role of mother is usually experienced by women only after their own children bear children. A woman may see herself as growing up with her own children, and she looks forward to grandchildren in order to raise a "new batch" to which she will relate as a full adult for the first time.

Many times this creates problems in the socialization of children. If a child cannot get what he wants from his parents he can often go to his grandparents and have his request fulfilled.

The doting attitude of the grandparents does little to dissuade him from circumventing parental authority. As one woman puts it, to tell the child "no" constantly and then to watch the child's grandparents accede to his requests makes her look like a "rat fink."

The high rates of disorganization suggest that the lower class family is limited in its ability to function as a "normal" family. The collapse of authority patterns, tied as they are to age grading phenomena as well as the various ambivalences of the sexually defined leadership roles in the family, paints a picture of intense family disorganization. The socialization process is impaired by virtue of the fact that parental authority has no well-defined locus. The impairment of socializing ability imposed by various combinations of default also creates additional problems in the socialization process. While we will not dwell for long on processes of socialization, a few observations on the world of the children will perhaps delineate some of the effects of family structure on the raising of children.

Children are by and large highly valued by people in the community. They are raised until the age of six or seven in a very permissive atmosphere. Not only parents but the child's older siblings continually dote over them and play with them. Kin outside of the nuclear family are also relatively available to care for and play with the child at a moment's notice. Even in those few cases where emotional neglect by the parents occurs, the effects are often offset by the child's being raised and cared for by near-kin. By the age of 12 or 13, however, the child is released from the confines of the household, and as one disapproving member of the community put it, the kids are "let loose to run wild." At this age a certain estrangement occurs between parent and child. The parents at this point see themselves as "unable to handle them anymore." The parental ability to restrict the child's behavior and activities decrease from this point onward. More and more the parent is forced to surrender his children to the peer group operating either in the school or in the community. There seems less and less sensitivity on the parents' part to take cues from various social institutions in order to judge the child's behavior in terms of his success or failure to operate in those institutions. Often the parents do not have the information upon which to make such instrumental criticism. There is a corresponding failure in many cases of the institutions to communicate adequately those standards of evaluation to these parents.

A second aspect of childrearing also fits the characteristics of the family as described above: the nature of parental guidance is of such a nature that its main aim is the control of the child.



The main job of the child as defined by the parents is to stay out of trouble, and stay out of the way of the parents. Adult interests are usually given priority when conflicts arise. This does not mean that the children are neglected. On the contrary, they are given a moderate amount of attention and, when financially possible, are given toys, candy money, etc. However, the main mode of child rearing is an attempt on the parent's part to mold and shape the child's world to fit the contingencies of the parent's needs. Such an approach to child-rearing is not unique among lower class populations in America. Kohn (1963) in writing on the socialization practices of the lower class notes such tendencies. Gans (1962) in his study of a Boston slum has also noted such findings. Indeed, much of the material on family structure presented in this study coincides with other descriptions of lower class family structure.

This particular approach to child rearing can be seen as a logical extension of the nature of the family as has been observed in Potter Addition. The stability of family roles is not great. The allocation of authority and leadership in many families (because of their openness and vulnerability from external forces) tends to produce deviant socialization practices. The various combinations of parental default make any form of guidance connected with publicly defined standards extremely difficult. Indeed, if we look at the lower class family as a group of people sitting atop powerful centrifugal and destructive forces, both in the social and economic realm, day-to-day control and maintenance of the status quo might be the only realistically obtainable goal. If this is true, then the strategy employed in meeting the economic contingencies of life might also be generalized to child rearing practices. We have already suggested that an optimal strategy in the economic domain might lie in checking potentially overwhelming economic forces in the family environment and foregoing any attempts to risk exploitation (and hence failure) in that environment. The optimal strategy in child rearing, given the tenuous nature of family authority and the lack of interpersonal resources, would be a checking or controlling strategy in childrearing. This would be an optimal strategy by which a family could "socialize" the children, and at the same time implement controls so that it could maintain its tenuous integration.

Within this delimiting and boundary-setting approach to child-rearing, differences in the socialization of children occur by the sex of the child. The girl is by and large kept closer to the home than is the boy. The tolerance of the male child's deviance is greater than it is for the female child. Indeed, one of the expectations in the socialization milieu of the lower

class male child is that he will be "a little devil" and show a great deal of aggressive behavior. Indeed, male aggressiveness is looked upon as a virtue in the child. It is felt by a majority of parents in the area that the ability of the male child to be aggressive is necessary if he is to succeed in the world. The girl, on the other hand, while expected to "stand up for herself" is much more restricted to the household. She will be more likely to be picked as a baby sitter for her younger siblings and will be expected to assume responsibilities of a domestic nature as early as possible.

Usually when the question arises as to why such young children must assume housekeeping responsibilities, two different answers are given. For the girl, it is seen as training which will be valuable to her in her later years when she establishes her own independent household. However, when the rationale for having young males do what is ostensibly women's work emerges, the usual answer is that it will be good for him once he gets out on his own.

Such rationales do have their validity. However, it is this writer's opinion that to a large extent these are rationalizations. For example, very seldom does a young man "get out on his own." More likely as not, he will stay in the parental household till the day he is married. In a like manner, the early requisition of the daughter's labor seems at times to be more motivated by a desperate need for aid in maintaining a household set in a crumbling structure and overpopulated with more children than the mother can handle.

The entire definition of sex roles in the family as they are tied to instrumental and expressive leadership roles presents a confused picture. Especially in those families where the absence or default of the husband has occurred, problems of sex role identity for the young males are very severe. If the father has defaulted, the mother or grandmother takes over much of the instrumental activity of the household. The father essentially holds a diminished role. In the majority of cases the young male child comes to be identified with the "degraded" father. One of the most often used phrases used to explain a child's misbehavior is that the child is "just like his father." Thus the child comes to be labeled, like his father, as "incompetent." When he marries, and especially if he marries within Potter Addition, this "instrumentally incompetent" individual may move from one female dominated household to another female dominated household. This new household may then act to reinforce this definition and the new husband does become, like his father, a male affine whose value resides in his masculinity and his potential to provide companionship for the wife.

The relative isolation of the male from meaningful instrumental leadership, beginning as it does in early childhood, starts to form the foundation for much of what was discussed in the section "The World of the Sexes." One consequence of male isolation is that the child is shielded from much criticism by women. Often while the child is defined as "instrumentally incompetent," he becomes an emotional surrogate for the father. He is thus indulged to a greater extent than the girl. A second consequence of this exclusion of the male child from criticism is that the father has neither the legitimate position nor the technical knowledge for criticizing the child's current behavior as a prognosticator of future occupational careers.

Thus a second self-perpetuating cycle emerges. The first cycle, it will be recalled, came about because of the exclusion of the male from the effective leadership roles in the family. The second cycle, we have argued, is in part rooted in the family but involves a replication from one generation to the next of work behavior and attitudes through the exclusion of the male child from effective criticism. In short, neither the information nor the values of orderly work careers is transmitted. This inaccessibility to effective criticism creates the structural foundations by which instrumental incompetence as a label is continued from family of orientation to family of procreation.

4. Amoral Familism. Banfield in his book The Moral Basis of a Backward Society has identified a type of community structure which he refers to as "amoral familism" (Banfield, 1958, pp. 83-103). Essentially a community based on the principle of amoral familism consists of a proliferation of closed, semi-autonomous, kinship units. The strength of these units precludes the emergence of higher-order civic structures which can "gain a life of their own" independent of kinship structures. This type of community is not restricted to the Italian culture; indeed, it emerges as a structural type in many diverse social contexts. Gans has argued that something akin to amoral familism is a dominant structural principle in the life of Italian slum dwellers in Boston (Gans, 1962). Talmon-Garber provides a similar description of community life in her writings on the Moshavim, the kinship-dominated agricultural cooperatives in Israel (Talmon-Garber, 1962).

Amoral familism as a structural type also appears as a structural reality in Potter Addition. In this context the tendency of kin to "look out for one another" and join forces against other kin in times of crisis and confrontation is an omnipresent characteristic of life in this community. While kin may fight with kin constantly, there is nothing more effective than criticism from non-kin to cause the group to unify and to protect "one of its own." Indeed, conflict in Potter Addition usually arises over the defense of siblings and children. There is no such thing in this community

as an "objective posture" in conflicts which involve kin and non-kin. Quite the contrary, many people admitted to this writer that it did not really matter whether, for example, their child had started a fight or not. The important thing was to stand up for their children in the face of criticism from other families. If in certain circumstances their child was in the wrong, it was an easy task to recite line and verse the transgression of the other child in the past which somehow justified their child's activity. The primary and most often expressed concern of these people was the defense of household, family of orientation, siblings, and lateral kin (in that order).

In the actual behavioral repertoire of the individual, the distinction of kin versus non-kin tended to override all other stratification variables. Thus rich--poor, moral--immoral, situational justifications of right and wrong were all overridden in the name of the principle of kin siding with kin. A person who could not show a firm rooting in one of these five or six major kin groupings never fully integrated into the community.

The very definition of reality as well as the proliferation of day-to-day definitions of the situation were validated in reference to kin. The most frequent reality-testing reference group was usually the female core of women who constituted a kin group. In Potter Addition the entire idea of "objective definitions of social reality" was in most cases inoperable. Depending upon the number of kinship groups involved in any given confrontation, the reality of that confrontation would have as many definitions. These definitions were not amenable to compromise since no one in the community could assume legitimate role of mediator. Anyone who attempted to mediate was taking his reputation into his own hands. For depending upon how a potential mediator decided, he would be immediately accused of siding with one group and would alienate the other groups involved. As one junk-yard owner told me, "When I came into the area, I was given two pieces of advice. Never play around with other men's wives and never get close to any one family. I was told that if I did, I would be in hot water with all the others."

The fragmented structural arrangement of the community has other implications. First, the quality and mode of communication between individuals is definitely shaped by this amoral familism. By and large activity is restricted to one's household and visitation with close friends, parents, and siblings. When outsiders enter into the interaction; a well formed front often emerges among the related individuals. Certain things are never discussed, and while kin may criticize kin, woe be to the outsider who joins in with such criticism. Usually offense is avoided by restricting conversation in both form and content to a ritualized set of procedures. When the "stranger" enters the household, he usually

follows this ritual. One can usually gossip about non-kin, but such gossip can be indulged in with impunity only after several years residence in the area. It usually takes this long to learn the numerous kinship links which bind various individuals and households. One piece of advice given this writer sums this up very well. He was told by an informant, "Don't get caught up in the gossip out here. Never say anything bad about anybody to anyone because you never know when you might be talking about some of their relations." Thus the embattled kin group (usually at its lowest level of organization) forms a basis for social structure which restricts the amount and kind of information that may be transmitted between groups.

This arrangement limits the depth and type of interaction which can occur: The integration of the community above the level of isolated kinship groups is all but impossible. Trust and the free exchange of information and ideas are inhibited. The ability of these kinship groups to sustain concerted cooperative action in an open atmosphere is severely limited. If the individual is to find a free and unthreatening atmosphere anywhere, he is driven back into the kin or peer group. In such a threatening context the goal of interaction is not the accumulation of various contacts with heterogeneous people. Rather the goal of most interaction and encounters in the community is based on a principle of avoidance. One must avoid being talked and gossiped about. One must avoid public acts in front of "strangers" (i.e., non-peer group members) which will give others in the community a chance for negative evaluation. While the negative consequences of such encounters are not totally eliminated when interacting with adult siblings or one's parents, the probability is still much less that public embarrassment will occur due to exchanges which occur within this group.

5. Internal Stratification. The internal stratification of the community can be seen at best as being chaotic and particularistic. There are contradictions in the evaluative process as well as contradictions in the verbalization of evaluations as opposed to the more "private thoughts" of a person. If as the functionalists have suggested, stratification systems are based on differential evaluation of qualities which must be based upon consensus in the population, then we must state that there is little basis for consensus of rankings in Potter Addition (Parsons, 1954, pp. 386-444). Consensus on the ranking of individuals and families was impeded to a large extent by the isolated and disjunctive nature of kinship groups. The kinship grouping serves as a semi-autonomous basis for definition and testing reality. Since no standard exists upon which all kinship groups in the community can concur the realities defined are seldom congruent. Working from impressions gained in the field, the writer

tested these ideas by having eight different people rank families within the community. It was found that while there was some consensus on one or two families "at the top" and three families "on the bottom," the variation of the other seventy or so families was so great as to make their definite placement in the stratification structure of the community all but impossible.

First of all, the nuclear family, which is by and large considered as the basic unit in the social stratification literature was not treated by the evaluators as a homogeneous unit. When asked where "this family stood as far as liking and respect," husband and wife were often given different rankings. When asked to evaluate the family as a whole, several found that they could not. Many only did so after a great deal of "pushing" from the researcher. Thus, the basic unit of stratification as it has been used in numerous studies in the past was not amenable to the realities of Potter Addition.

A second problem in the "evaluative mode of class placement" which emerged during this study (not only during the formal ranking but during the participant observations) was the tendency of people to use a great many different parameters for the ranking of families. The question of "class placement" was made even more difficult by the inconsistent use of these parameters on the same individual at different times. On many occasions when a person was discussed, the basis of liking or disliking would be highly variable. The inconsistent use of parameters makes discussions of the internal stratification of the community extremely difficult. Thus, two men who might be labeled as "drunks" would be given disparate rankings because one was kin and the other wasn't, or because one was old and harmless and the other was young and lecherous. In many cases the evaluation of households were made on the basis of characteristics of the female. At other times a woman would be given a low ranking because of her past or for what her mother, father, or near kin "has been in the past" (i.e., "no good").

While placement of individuals was to some extent chaotic in that no one set of parameters seemed to operate in a majority of cases, there was nevertheless within several individual's rankings a central theme: This was the person's ability to lead a "moral life." (Cf. West, 1945). This diffuse mechanism of stratification placement seemed to be the most single consistent mode of evaluation. However, there was such great inter-evaluator variance as to make even this parameter a highly dubious one for class assignment.

The main problem which confronted this researcher in mapping out the ranking system of the community was the ideology of residents that there were no classes in Potter Addition. Potter Addition was seen by the inhabitants as being populated by a relatively homogeneous group of individuals. It was often pointed out by informants that

Potter Addition was a small town, in essence a rural farming community. Undoubtedly, this was in part a reflection of the small town life from which many had emigrated. It was explicitly stated many times to the researcher that the people of the community were all "just folks." To put it another way they might have said jokingly that they were all "just hairy legged farm boys trying to please." It is the writer's suspicion that indeed evaluations were made but they were made within the cloistered confines of self or intimate groupings. To have evaluated in a pejorative and public way the various families that lived in the area would have been interpreted as saying derogatory things about other residents. Such differential evaluation would have given the individual the appearance of being "uppity," "standoffish," or "snobbish." From the writer's experiences, to be labeled these things in Potter Addition was to relegate a person to a pariah and untrustworthy status and to be cut off from informal sources of community aid, support, and approval.

In summation, the stratification system of Potter Addition as a consensus of rankings was nonexistent. Indeed, it would be difficult to talk in terms of any objective ordering of families in the area of the reality of those orderings were to correspond even remotely to the mechanisms of "class placement" employed by the population. The multitude of criteria as well as the inconsistent use of those criteria from person to person, group to group, and time period to time period, suggest that there are few stable modes of evaluation used by the people of Potter Addition. The inability to rank families as a whole also suggests that the conventional mode of stratification placement might be inoperable in this community context. The particularistic nature of kinship groups and their disjunctively based pictures of reality would also act to obscure any consensus based set of stratification variables. All of these factors then interact to create a highly disorganized stratification system. Of all the above factors, the autonomy and separateness of kinship and peer groups would seem to be the major inhibiting force in the development of a clearcut stratification system in the community.

#### Potter Addition and the Outside World

We have argued in this report that environmental setting of Potter Addition has to a great extent shaped the quality of life in the community. The nature of the variable environment we have argued has placed strict limitations on the degree of cooperation which is possible between groups. We have also argued that such an environment places certain structural limitations on the potential structural complexity and function of these groupings. In the face of an environment which lacks facilities and presents great variability of those few facilities the "normal" mode of relationship is posited on the sharp distinction of "insider" and "outsider."

The "insider-outsider" distinction while a correlative concept essentially tends to differentiate people in terms of degrees of openness and trustworthiness. In the face of the paucity and variability of resources continuous conflict over scarce material and social resources is the natural mode of relations at various levels of social structure. The social structure of Potter Addition has been described in terms of conflicting worlds of men and women; the struggle of the husband against the wife and her relatives for instrumental dominance; the struggle of kin against non-kin; and the conflict over reputational symbols by which competing kin-groups seek to elevate their particular group. These oppositional features are the warp and woof of social life in Potter Addition. As pointed out in the theory section of this report; the entire question of institutionalization of lower class life centers around the idea of incorporating conflicts and needs into the few simple stable structures - kinship and peer groups - which exist in the community.

We now come to the question of the relationship of the community as a whole to that of the external world. We will attempt to show that the same parameters which we have thus far discussed still operate. The various forces which express themselves in the social structure of the community seem to serve as restricting factors which order and shape the nature and potential of community response to the outside world. They are not, however, sources of community definition; we must go outside the community to discover the sources of community definition.

What then is the problem around which "community" is organized in Potter Addition? This report will suggest that the continuing problem faced by the residents (as a group) of Potter Addition is that of handling institutionally defined and implemented stigma, which have their basis in the parent community. To live in Potter Addition is to be stigmatized. It is this stigma which is the locus of "community." The definition of community, then, is as much a function of external forces as it is common internal orientation of actors. Community is defined as much by the stigmatizing and exclusionary acts of the parent society as it is by the collective response of individuals to those acts. The basis of collective action is as much defense and response as it is positive orientation to group survival and persistence.

The next two sections will deal with the objective basis by which stigmatic labels are assigned to the populace and in addition we shall discuss the response of residents to this stigmatization. We shall attempt to demonstrate that the response to stigmatization is limited by the structural arrangements in the community. That is, we will attempt to show how variable environments act selectively to dictate the responses of the collectivity to external social forces.



1. Stigma and the Generation of Community. The basis of stigmatization has roots in the history of Potter Addition. With the influx of southern migrants a declassé group moved into the Urbana area. As such they were considered as non-persons who were not part of the social system of Urbana proper. While they filled the dirtier manual occupational niches in the community, they were nevertheless a superfluous population (Farber, 1968). By 1945 to come from Potter Addition was to be assigned the position of "low life," "immoral," and "stupid."

If we look for the sources of stigmatization in the larger community, the first thing we discover is that stigmatic images of Potter Addition are not as widespread as one would suppose. One of the more remarkable findings of this study was that a large majority of people living in Urbana were not aware of the existence of Potter Addition. The activity of Potter Additionites in Urbana has been structured in such a way as to make them an invisible class. When one goes to restaurants he does not see the dishwasher; he may pay casual attention to the person serving him the food, but note little more. When one teaches at a university he seldom notices the janitor or the construction worker who may share his world for months at a time.

On the other hand, if you are poor you do not go to the better stores to purchase things. You do not go to the air conditioned shopping malls, you rather patronize the more marginal and "cutrate" enterprises. If you enter this "world of luxury," and are from Potter Addition, you do not stay long. You look at the way you are dressed, you look at the way the clerk eyes you (are you shop-lifting?) as you walk through the store, and the discomfort makes such trips unrewarding. This is not to say that people will always go to town poorly dressed. However, even in those cases of the better off families in Potter Addition, discomfort caused by painful encounters and petty slights will sooner or later keep them from entering these establishments.

If the people of Potter Addition are invisible to a large portion of Urbana, they are highly visible to educational, welfare, and legal agencies which service the city and county. Relatively high rates of crime and delinquency in Potter Addition make the people who work in the law enforcement agencies acutely aware of the community's existence. Cases of child neglect, structural unemployment, fatherless families, and the aged on relief, force the awareness of the presence of Potter Addition upon welfare agencies. If one is a teacher or a principal in the junior or senior high schools and must teach children who are academically ill-prepared, then one is aware of the existence of Potter Addition.

These agencies located in Urbana but servicing Potter Addition have become the main sources of stigmatization. They are the most feared and disliked structures in the area since they are the main intrusive elements of criticism. They are the institutions which can "get a person in trouble." Why do they stigmatize all people from Potter Addition? The answer would seem fairly simple: Certain families threaten the orderly and efficient operation of these institutions. Since these agencies have only minimal contact with the area and since the area from past encounters has found it useful to shut these agencies out, the generalizations of stigmatization to a stereotypical form is used to label the entire population of the community. Some of the "old hands" in these agencies do distinguish between different families, but they are few.

Welfare agencies, especially at the county level, are threatened by the community because of the schizophrenic world of welfare agencies. The welfare agency must simultaneously reward and punish various degrees of pauperism. To reward nonwork is to threaten the entire set of dubious assumptions which reward alienated and meaningless labor. To see a man get paid for "doing nothing" when one must work at a job which he finds boring and irksome is more than the "good worker" can tolerate.

The child from Potter Addition is a threat to classroom order and a constant source of non-retrievable expense. His academic non-productivity and "acting up" in class makes him a poor bargain for a school system. The conditions which generate the "poor bargain" however, are only partly rooted in the school. First, the aims of education in the school system is to produce a product that is academically capable and, ideally, adequate in the handling of abstract ideas. Life in Potter Addition, however, does not reinforce the goals of the school. For the child's world in Potter Addition is one of objects not verbal elaboration, cars not poetry. The world of Potter Addition is one of restriction of the child's activity, not free flowing creativity. The world of Potter Addition is one of variable resources and chaos, not progression and career. What is needed to adapt to the life of Potter Addition is seldom taught in the schools. What is needed to succeed in school is seldom available to the child in Potter Addition.

Even if the material in the classroom and the goals of the school were salient, the child from Potter Addition would still be in trouble. The facilities and the teachers in the lower grades to which Potter Addition children are exposed are below the average for Urbana. This has been acknowledged by the schools for years, yet remediation has been wanting. When the child reaches high school, the hiatus between community and education system is large. Special classes for the slow learner and the retarded are no longer adequate

buffers by which the school system can assure its efficient operation. The "personal attention" of the earlier grades give way to more impersonal evaluation. The child moves from a person-oriented atmosphere to one of achievement and competition. Progressive alienation with the educational system begins to manifest itself in the early years of junior high school and usually peaks with the child dropping out of high school.

Until the child drops out, however, he is a continual problem for the school. He is seldom a teacher's favorite because he does not perform adequately and is a "behavior problem" in the classroom. He is a child whom the school could better do without. He is isolated from the student elite and finds very little in school life which gives him pleasure. He is in essence a child which nobody in the school needs. The children of Potter Addition as well as many lower class children become a surplus population in the school (Farber, 1968, pp. 3-23).

The child in the end is more a detriment to the resources of the school than he is an asset. Special classes as we have said, are no longer adequate. The importation of new counseling programs which are structured to deal with the needs of the lower class child have not existed long enough to be properly evaluated. However, they reach the child only at the later stages of his alienation from school.

None of the above special programs adequately protects the school and its personnel from the disruptive presence of the Potter Addition child. A more convenient tactic has been used in the past. That tactic is to drive the child from the school through a "back door." Under the democratic ethos, one cannot openly drive a child from the school. However, the individualistic aspect of this philosophy does not require that the personnel in a school be responsible for keeping that child in school. On the basis of these two principles, informal arrangements have been established in the past in which the problem children of Potter Addition, once they leave school, are not encouraged to return. It has been the informal practice for many years for some officials to do nothing to encourage the child to remain in school. The school thus informally protects itself and its efficient operation from the disruptive lower class child of Potter Addition.

So far, by using the schools as an example, we have attempted to enumerate the characteristics which predispose the child from Potter Addition to be labeled as a deviant, with the suggestion that the motivation of persons who do the labeling is the desire to maintain an efficient educational system. But why is such labeling allowed to occur? If there is value consensus in a society, then the act of labeling is a fairly cut and dried matter: The stigmatic label is seen as legitimate by both parties. However, if the

designation of deviance is a bartering process, then we must explain why there are no countervailing structures to protect the child and more generally the residents of Potter Addition from such labeling.

In the case of the schools the parents may be the only countervailing force against such a labeling process. Through collective action such as parent groups, "voting in" sympathetic school board members, or through individual defense of one's child, such countervailing structures can be created. However, the parent cannot usually offer protection to the child in these matters. He has very little knowledge of what goes on in the classroom at the school. He is forced to accept the teacher's or the administrator's definition of a given situation. When confronted with contradictions in the child's story and the teacher's story, he will often defiantly act on the principle of "protecting one's own." In a great many instances a parent has seen the administrator's acts as meaningless, arbitrary or even unjust. Even at times when it is obvious that the teacher or administration is taking an unfair position, the parents will not be able to defend his child. The writer has seen the lower class individuals, haunted by his own sense of educational inferiority, crumble in the face of academic authority. On many occasions when this writer felt that the school authorities were unfair, he saw parents leave a meeting empty-handed. They had been verbally "flimflamed" out of their rights. The tendency to even confront educational authorities in an attempt to protect children is diminished by the predisposition of lower class parents to avoid trouble at any cost.

As a result, in a great many cases the child is "thrown to the wolves." The inexperience of the parent in dealing with bureaucratic roles, his feelings of inferiority when dealing with a more educated person, makes him indeed a poor advocate to offset the labeling process of the school system or other public agencies. The same processes operate in the legal and the welfare institutions. The individual from Potter Addition, when called into the bailiwick of these institutions, is surrounded by strangers who operate in a world which he little understands. The buzzing confusion created by threatening authority, legalisms, and bureaucratic "double talk" leaves him totally defenseless. He often leaves such encounters with a vague notion that he has been cheated. He indeed is often cheated; however, he can seldom "prove" this fact. The encounter of the lower class individual with the institutions of our society are indeed Kafkaesque. To enter situations such as these is to surrender all autonomy over one's personal destiny. Accordingly the lower class individual avoids such situations and as such the potential of his daily victimization becomes assured.

This section has briefly described the conditions under which stigmatization occurs for people who live in Potter Addition. They are essentially deprived of rights and access to power. They are a threat to the orderly institutional structure of the larger community. Many lack the skills, attitudes, and life style to efficiently operate in such institutional settings. The people of Potter Addition are by and large powerless to affect their lives. Therefore, they are exploited. The stigmatic label reduces them to non-persons and thus allows the larger society to exploit with little guilt and with great impunity.

The dwellers in Potter Addition often grudgingly succumb to stigmatization. They tolerate such stigmatization since they have neither the resources nor the knowledge to change the given state of affairs. They also see in their own eyes some remote basis for such stigmatization. They see around them enough poverty, promiscuity, and disorder to confirm their suspicion that this stigmatization is perhaps deserved. Such stigma might be erased if the people of this community could collectively rise up and challenge these labels. However, the structure of Potter Addition does not allow for any sustained "collective uprising." The fragmented social structure, developed as it is to adapt to an impoverished and variable environment, does not allow for such action. While stigma are seldom placidly accepted, adjustments are made by which they are denied or deflected, but still endured.

2. Stigma Disavowal and the Ideological Counter-Attack of the Poor. The last section discussed the foundations of stigmatization as directed toward the people of Potter Addition. Such stigma, however, are not fully acceded to in the community. One of the first things that the researcher noticed when entering the community was a large majority of people showed a pride and an élan in their identification with Potter Addition. The fiercest defenses could be evoked by raising an argument which supported the institutionally based stigmatization of the population. Many argued eloquently and convincingly that the stigmatization was either wrong, unfair, or tended to be true of only a small portion of the community. From these observations it was obvious that self derogation and demoralization which might have been expected to be a result of the stigmatization process was not in effect in the community.

There are several reasons why such an élan was maintained. First of all, the very geographical placement of Potter Addition diminishes the acceptance of stigma by the people in the community. Because of its unincorporated nature, Potter Addition creates conditions for a life which is fairly free of external, formal, and legal restraints. It is a place where one is not necessarily bound by any norm of neighborliness. One can be "left alone" and establish relations and expectations outside his kin group at will. The

individual in Potter Addition can escape situations which lead to embarrassment and admission of role failure. At the same time he can pursue activities in which he excels and to some extent can pick his audiences for praise.

A woman knows that she has had an illegitimate child, that her husband is unfaithful, and that deviance exists in her family. She learns to live with these things. The important thing for many of these people is to live in an environment where these may be kept secret or at least remain un verbalized. For many there is a tremendous difference between the internal knowledge of deviance and a public recognition of it by stigmatized labelling. Potter Addition is a place where deviance can be tolerated since in one form or another it permeates most households. It is also a place where criticism and direct confrontations seldom occur. It is seen as easier to live with the knowledge of deviance and fend off feelings of guilt and inferiority if those who surround the person live with similar deviance and blemished biographies. The practical issue becomes one of adapting relations to neighbors, managing what Goffman has called spoiled identities in the situational, short run content of the community (Goffman, 1963).

The very location of Potter Addition then maximizes circumstances by which extra-community criticism can be fended off. Its physical and social isolation, its relative lack of jurisdictional surveillance, and the lack of formal controls constitute powerful barriers to the intrusion of the threatening institutional culture.

So far we have suggested that the isolation of the community is a factor by which counter-ideologies are generated which successfully stave off demoralizing implications of stigmatic definitions. We will now discuss some of the particulars of this counter-ideology. To do this we will have to differentiate between two different parts or functionally specific aspects of ideology. As Bendix has pointed out, ideologies differ in their content and purposes according to the structural situation in which they are found (Bendix, 1964). A group that is dominant in a society must construct an ideology which can be embraced by all whom they hope to dominate. In this case the extension of authority is the prime objective of such a ruling group.

In situations where groups are competing for dominance, ideologies must perform different tasks. They must (1) neutralize the claims of competing ideological positions and groups, and (2) create attractive and alternative pictures of reality rooted in utopian appeals.

The neutralization of the dictates and definitions of public culture is relatively easy for people who live in Potter Addition. From the lowest rung of the social ladder they gain a perspective of respectable citizens which is unique. They are at the bottom and from time to time come into contact with those who stigmatize them. These contacts allow them to "see through the legitimate fronts" of the public leaders.

This perspective is a seamy one since many in Potter Addition have in the past provided "illegitimate services" for the upstanding gentry of Urbana. A man whose father has delivered bootleg liquor to a mayor, who has whored in the same bars in their younger days with the community leaders, and who has provided a range of illicit services to the upper strata of Urbana, has a ready made answer for any criticism of his behavior. If he is criticized for his drinking, he can always point out that he drinks no more than a handful of respectable citizens who look down on him. If he is unfaithful to his wife, he can see no difference between his infidelity and the secret infidelity of a local community leader who would condemn him. He does not have to speculate about these things; he is familiar with them.

Consequently, much chastisement is written off as hypocrisy. There is some "folk validation" for this: Such songs as "Harper Valley P.T.A." expose members of the local school board as Harper Valley Hypocrites. Indeed, the charge of hypocrisy rather than being an act of disavowal with the larger system may be interpreted as an expression of identity to that system. The person from Potter Addition is no different in his indiscretions than those who have been given high esteem. In fact he would claim he leads a more moral life! The charge of hypocrisy is a democratic leveling device by which the lower classes of small towns seek to show that they are like everyone else. Indeed, in his own eyes the resident of Potter Addition may see himself as more honest since he does not indulge in "hypocritical finger pointing."

An entire set of verbal interventions emerge to debunk the reality of stigmatic definition of them. They are not blind to the legal double-standard which exists between rich and poor. If there is more juvenile delinquency in Potter Addition, it is only because more children from the area are caught and brought to trial. It is "common knowledge" in Potter Addition that the middle class child who is caught may never be brought to trial.<sup>1</sup> In fact, they apply this inequity to explain and defend their "community based reality."

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<sup>1</sup>It is ironic that many of the facts cited to support neutralizations have been acquired from welfare workers and sociologists. Many have attended state conferences on juvenile delinquency through the auspices of a local youth group. Much of the material which is later used for neutralization is picked up from speakers at these meetings.

In many ways the people of Potter Addition are like the contemporary blacks who through exclusion from white culture know more about white culture than whites know about black culture. They use this "information" to their own advantage and protection. One of the ideological ploys used constantly to neutralize charges of deviance is the statement that the actions of people in Potter Addition are no different from those outside of Potter Addition. Since Potter Addition is closed by and large to outsiders, the outsider has very little evidence to refute such appeals to "sameness." There has developed within Potter Addition, due to its isolation and freedom from public critics, a set of well-founded and commonly-held beliefs among the residents (within the territorial confines of the community) which effectively deny the "objective foundations" upon which public institutions base their stigmatization.

One thing should be said about neutralization. This term has been used by Matza to explain the processes by which delinquents "drift" into delinquent behavior (Matza, 1964, pp. 69-101). It is essentially seen as an instrument of negation. However, there is sharp disagreement between this writer and Matza about the structural foundations of neutralization. For Matza, neutralizing expressions are purely psychologically based rationalizations by which the child justifies his behavior in pursuit of pleasure. In my reading of Matza I found no suggestion that support for such neutralizing strategies occur beyond delinquent groups. The findings of this report do not support such a view. The neutralization mechanism, as observed in Potter Addition, is not developed within the province of children. Indeed, the more sophisticated neutralizations were presented to them by their parents. The child seems to neutralize arguments and the entire style of neutralization by listening to his parents. Hence, neutralization as a purely psychological mechanism spawned spontaneously in the bowels of delinquent gangs does not seem to be an adequate use of the concept. Indeed, the findings of this study indicate that neutralization is a mechanism by which a powerless group, put on the defensive by dominant institutions, justifies its own existence and escapes the degradation which society would visit upon it.

Neutralizations, then, are not merely mechanisms which allow "libidos to unwind." Rather, these neutralizations emerge from the existential conditions of a group of people who must continue to live in a society which has little sympathy or use for them and over which they have no control. They create protective and fragile facades of normalcy under conditions where normalcy is impossible. In the end, neutralization and ideology differ not in content but context. Ideologies are world views of whole class system segments. Neutralizations are verbalizations of isolated groups who have yet to rise to power or indeed may never do so.



As mentioned earlier, the second aspect of any ideology is an affirmation of the good life. The people of Potter Addition have such a picture. For them the good life is summed up in the agrarian ideal (Vidich and Bensman, 1968), which lionizes the land and man's relationship to it. It is a set of ideas which paint the good life in terms of the rural life; a phraseology which sees the good life obtainable only in the small country town. Indeed, if one were to ask people what Potter Addition is, they would say that it is just like any small farm town in Illinois. As one old time resident said, "We are all at heart farmers. We like to be left alone, keep out of other people's business and come to people's aid in time of need."

For many of the residents, this is how they see Potter Addition. For others this is the way they would like to see Potter Addition. The rural perspective allows an alternative choice of interpretation of life in Potter Addition. Substandard housing, outdoor toilets, well water and other "substandard" characteristics do not denote poverty alone but only a rural state of affairs (not unlike farming conditions in which they were raised). The fastest way to insult a person from Potter Addition is to call him poor. To be poor in their minds is to be useless, to be a relief cheater, and to be dispicable. To be labeled poor and to accept that label in their eyes is to accept self demoralization. To finally admit that they are indeed poor is to give up the last line of self-defense against degradation.

In brief the main function of the set of verbalizations which we have called (perhaps incorrectly) ideology is an attempt to construct defenses against the larger society. In the process of neutralizing those charges of stigma, they deny the superior position of those critics who would degrade them. By defining themselves as rural folk, they embrace a set of values and symbols which "plug them in" to what is still a sacred and revered way of life.

For all the sophistication of these verbalizations and counter-arguments, however, the person need only look around him to realize that the argument is somehow not whole. Whenever he confronts a representative of the major institutions, he realizes that his claims to normalcy are somewhat less than valid. Yet, through compartmentalization, by avoidance of certain people and social positions which would expose strong counterarguments, the myth of commonality can be maintained. The reality testing of this lower class ideology can be avoided only if encounters are restricted to those who have the same vested interests in maintaining that ideology. If you are from Potter Addition, neutralizing statements and claims to rural identity are best made within the confines of the community. The validity of such an ideology can only be maintained by restricting interaction in such a way as to avoid frequent contact (and therefore testing of the ideology) with public critics. In short, the ideology of sameness is a fragile half-truth to be told over and

over again to those who have a vested interest in the continuance of that half-truth. What maintains the fiction in large part is the closed nature of the community, the exclusion of full participation in the parent community, and finally apathy of outsiders toward Potter Addition. As long as its residents do not create problems in the operation of the economic, political, and educational institutions of Urbana, Potter Addition will be permitted to perpetuate this illusion.

3. Individual Strategies: Stigma and the Disavowal of Community. Stigma in Potter Addition ideally are dealt with at three levels: The personal, the family, and the collective. In handling personal and family stigma one must address himself primarily to other people in Potter Addition. The problems of stigma which center around contacts with representatives of public culture are by and large distant phenomena when it comes to living day-to-day in Potter Addition.

The most frequently employed defense of one's stigma is what we will call leveling mechanisms. Almost everyone in Potter Addition carries with him some stigma. They have some "family skeletons" or set of biographical facts of which they are not proud. It may be an illegitimate child, a jail record, doubt about one's parentage, or any multitude of things. In the individual's orientation there are very few hierarchical distinctions made between types of stigma. All stigma as experienced by others in the end become equal. They become equal in the process of accounting for one's own shortcomings. If a woman has in her background a history of sexual promiscuity, she need not necessarily be subjected to public criticism and ridicule. For in any encounter in which an accounting of shortcomings are made, the person who confronts you with your shortcomings is automatically on shaky ground.

If a person does confront an individual in Potter Addition with stigma, he runs the risk of having his own stigmatic biography exhumed before his very eyes. Hurt is returned with hurt. For the stigmatized of the community it is necessary to "have something on everybody and use it when necessary." This is not difficult to do since to live in Potter Addition for any length of time is to have an "open biography." Everyone knows everyone else's business, follies, and indiscretions. To know everyone else's business is to "dig up dirt" on some portion of a person's past.

The leveling mechanism presents great potential for protection. One need not worry about being confronted with past or present indiscretions. For if this is done, one can retaliate quickly - if not cruelly. There is thus a standoff between residents. One

protects himself and his stigmatized biography by accumulating seamy information on others in the community. If one is particularly vulnerable, to play it safe, he must "collect dirt" on everyone. Hence, the management of stigmatized identity within the confines of Potter Addition is handled by a great many by always having "information" which can be used in time of interpersonal crisis and embarrassment.

The rules of such a game are known by all. And confrontations are gingerly avoided whenever possible. Such a prerequisite for interaction, however, limits the depth and totality of commitment which can occur in any given encounter. Here we have a second foundation for the "ritual nature" of interaction which marks the community. At the same time such a strategy designed as it is to combat stigma, merely reinforces the ecological foundations of limited group involvement.

Some members of the community give this as a reason for distrust and suspicion of strangers: There is always the possibility that a stranger in the community may obtain elements of your open biography while his biography remains closed. This, consequently, creates an asymmetrical relationship between stranger and resident. The stranger can do damage. He can dredge up and confront the resident with stigmatized elements of the resident's biography leaving the resident of Potter Addition defenseless. The more general neutralizing techniques discussed in the preceding section are of little help in these cases; they apply usually in the general defense of Potter Addition, but they are useless in individual defense. What is needed if one is to avoid the embarrassment of confrontation is to have something one can hold over the stranger. As one informant reported to this researcher, "One of the reasons you're having trouble out here is that nobody knows you. They don't have anything on you. Sooner or later they'll get something on you. If they can't get anything on you, then the next thing they will do is make up something and gossip about you."

What we have discussed up to now is one of the dominating themes of interaction in Potter Addition. Needless to say the daily world is not as "jungle-like" as suggested above. One can usually avoid confrontations with one's stigmatized biography by restricting interaction to a stable "in-group." Only when one steps outside of this protective group do the contingencies of combat through unmasking become relevant possibilities of interaction. Yet even within the in-group you are not totally safe; a flare of temper can tear open old wounds and start a cycle of damaging exchanges. It must be emphasized, that such protection is only relative. There is less of a threat in the peer group when compared to exchange with "strangers." However, tensions in the group can create equally threatening situations.

The stigmatization of families is handled in much the same manner. When one confronts a family, he is confronting a group which for certain purposes takes on a corporate nature. In exchanges centering around stigmatization, the range and variety of stigma available from a "family pool of stigmatized biographies" are much "richer." The tendency to restrict interactions to homogeneous groups is further reinforced by the fact that when one interacts with other family groups, he often carries the potential stigma of his entire family (as part of symbolic estate). He must, if the going gets rough, defend not only himself but his family, as he is held accountable for the entire family's transgressions.

The implications for the intra-community management of stigmatic biographies and symbolic family estates are the following: First, confrontation is minimized due to the mutual openness of biographies. Secondly, the forms of communication which can be established between various groups in the community because of the explosive potential of stigma, are severely inhibited. Thirdly, because of the limitations on such exchanges, the potential for the introduction of novel views and criteria of evaluation is severely curtailed.

The basis of evaluation is heavily laden in a particularistic direction. The same act or same stigmatized element of biography will be evaluated differently depending on whether the person being discussed is a member of the "in-group." The emphasis on small group solidarity structures the perception of the stigmatizing act. In most cases stigmatization from outside the area is not interpreted as an affront to "Potter Addition" as a whole. Stigmatization is only resented when some member of the intimate group is involved. The capriciousness of law enforcement agencies is only mildly resented as a general phenomena. Only when the sting of arrest and incarceration is felt by a member of the group is the entire public culture looked upon with fear and misgiving. When this occurs, it is always possible to demonstrate the unfairness of the police. People compare what has happened to others in Potter Addition and can always find cases of milder treatment for the same act. Thus the law is seen as capricious and particularistic. This in some part is seen to absolve the transgression of the group member. Another example: While the educational short-changing is directed toward all in Potter Addition and is verbalized as being scandalous, the motivation to change or to confront "the system" occurs only when it is directed to a member of the family, kinship group, or peer group.

The reaction to stigma shaped as it is by both external restrictions and internal restraints produces a rabid form of individualism. In personal discussions with Dr. Michael Lewis this Nineteenth Century Social Darwinist view of the relations between man and society was also found in his work in Harlem (Lewis, 1967). Such individualism

and the lack of consciousness of individual welfare, being tightly bound to collective action, is seen by this writer to be a direct product of the social structure which emerges in Potter Addition.

It should not be surprising that some link can be drawn between highly individualistic perceptions of life chances and the variable environment. Individualism and variable environment are mediated by the types of social structure discussed in this report. This relationship has been noted by Walter Miller (1959, pp. 219-236). Miller pointed out that the desired characteristics which were necessary to conquer a frontier are exactly those characteristics which one encounters in the lower class slum.

Independence, aggressiveness, emphasis on bodily strength, and the tendency towards violence were necessary for frontier survival in this country. They are still necessary for those who live on the encapsulated "frontiers" of urban society. The tragedy is that society can no longer tolerate its frontier types. They are too quixotic, too unreliable, and too unpredictable for the massive bureaucratic institutions which have grown up to serve the industrial order. If there is a threat on the part of the lower class to our society at this point in history, it is the threat of the frontier type who has outlived his day and usefulness to the society and its development.

4. Collective Strategies of Stigma Disavowal and the Failure of Community. Why have collective strategies of defense and stigma disavowal failed to develop in Potter Addition? (Davis, 1961, pp. 120-132). Much of the answer has been presented in preceding sections. Generally the intermeshing of ecological and social-evaluation factors have created a structural arrangement which is highly fragmented, atomized, and integrated only at the level of relatively self-contained social units. No foundation has ever been laid by which the various small units could be brought together in a common cause. If they could be brought together in common cause, then collective approaches to their economic problems as well as an efficient combating of stigma might be effected.

However, both the structural prerequisites needed to survive in a variable environment as well as the definitions of reality engendered by that reality preclude the emergence of superordinate structures. Suppose, for example, a community called Potter Addition could emerge and create a set of subcultural patterns which would be unique to the area. It could be assumed that such autonomy of cultural patterns could be a more effective defense against individual demoralization and collective predation. Still, for such structures to emerge, a group would have to be created which could legitimately claim to represent the best interests of the community over and above the interests of any given kinship or peer group. To do this the community elite would have to be based in the culture of all kinship segments and would have to be seen as having a legitimate critical function.

Drawing on the work of Farber, for such a "community culture" to persist over time, we would have to assume minimally that a community critic would have to emerge (Farber, 1964, pp. 187-232). As we shall show, the conditions of efficient criticism are not now possible in Potter Addition. Hence, the development of extra-family leadership and suprafamily institutions is highly unlikely.

To make this argument we will enumerate the characteristics of the social critic as presented by Farber and then demonstrate how the structural arrangement of the present community precludes such a development. Farber (1964) has listed four characteristics of the kinship critic. They are:

1. The social critic is external to the structural arrangement which he is criticizing. The issue at hand here is that the critic is not dependent on the unit he is evaluating. He is, aloof, objective, and sympathetic. It is necessary that he not be dependent on the unit for emotional or other supportive functions in order to perform effective evaluations.

2. The social critic has clear standards of performances of the unit he is evaluating. If evaluation is to be perceived as being legitimate, there can be very little ambivalence about the standards which a unit sees itself being evaluated upon. In order to validate the legitimacy of such criticism the critic should be experienced and committed to the welfare of the group. Experience will validate the objective performance of the critic. High involvement assures those in the unit being criticized that such standards are maintained for group welfare.

3. The social critic must communicate to the unit discrepancies between standards and performance. This is a fairly obvious condition since standards which are not communicated can have little effect on unit behavior. At the same time if there is no feedback between the critic and the unit he is evaluating, then the individuals in the unit cannot evaluate their own performance.

4. The social critic minimizes deviance in the unit he is criticizing. This refers to the control function of the critic. This is indeed why he is criticizing. It is his function to be the keeper of standards and to protect and conserve those standards as they operate within the given unit. To this end he usually has available certain economic and reputational sanctions which he can manipulate in order to enforce adherence to evaluative standards.

The present structural arrangement of Potter Addition makes the emergence of an autonomous critic possessing these characteristics all but impossible. For a social critic to emerge from Potter Addition and still be independent of the unit he is evaluating is very difficult. As we have seen, Potter Addition has one of its functions the providing of services and support during times of crisis. This support is provided on the basis of non-market principles. Support is given on the basis of largely ascriptive criteria. Since we have assumed that the individual facing a variable environment is seldom free from crisis and is excluded from the parent community for support, extended independence from the evaluating unit is not feasible. In reality a handful of families would be eligible to meet this first prerequisite of criticism. However, they fall into two groups: The relative newcomer who has not been seen as having the best interest in Potter Addition at heart and the oldtimers who spend much of their time constructing covert defenses against the "hillbilly newcomers."

For a person to be a critic he must have clear standards of performance. We have seen that utilization of performance standards is highly specific and particularistic vis-a-vis a given group. For someone to emerge from Potter Addition and act as a legitimate critic is very difficult. His standards will in all likelihood be kinship specific, and his perceptions will not coincide exactly with those of others in the community. His legitimacy to criticize will also be brought into question. The appeals to objective factors which he might make to show experience would probably not be accepted by others in the community. For example, to criticize others for deviant behavior would be impossible since his own ability to lead a "moral life" would be "thrown up in his face." There would also always be questions as to his ability to be involved in all kinship units equally. He would be constantly under suspicion of using his role as critic as leverage to gain advantage for his own family or peer group.

Indeed under present structural arrangements in the community, to show neutrality to all groups would in the end put him in a position of being alienated from all groups. The principle of "You're either for us or against us" would undermine any protestation of neutrality.

The communication network as we have described it in this report would make communication of discrepancies between standards and performances impossible. The critic would always be, because of his neutrality, a "stranger." He would be constantly subject to the neutralizing mechanisms which now operate to explain away stigma at the public culture level. Indeed the power asymmetry, implicit in the critic role, would predispose units with whom he interacts to reject his criticism.

Finally, the goal of the social critic as a minimizer of deviance would be undermined for several reasons. First, he would not have available to him the necessary sanctions to effect the group. Secondly, he would have to be a "purer than thou" type. That is, his criticism of deviance would only be tolerated if he himself could show that he was free of criticism. Due to the open biography of all community residents it is doubtful that such a front could long be maintained. Finally, the critic's focus is on the long term consequences of short-run strategies. In a variable environment long-run evaluation would be of a highly unpredictable nature.

The one social role which might be utilized for the services of community critic would be that of the minister. However, the ministers which have had most contact with the area are lay ministers, men who have by and large come to the ministry only after having filled various lower or workingclass occupational roles in their early life. The "mortality rate" of such ministers is high. They are constantly open to charges of moral indiscretions, drinking on the side, being "uppity," and so forth. In the final analysis, the "need to level" precludes the emergence of the autonomous critic.

The failure to develop formal organizations which might protect the people of Potter Addition from predation and stigmatization stems from factors very much akin to those which preclude the emergence of the critic. Several organizations of a self-help or uplift nature have come and gone in Potter Addition. Two of these, the Potter Addition Youth Council and the Potter Addition Ladies Auxiliary, while having succeeded to some extent, have been rendered to a large extent ineffective. Both organizations have had dedicated members. However, as these organizations have matured and gained some small set of victories, they have lost most of their community based constituency. (Ironically these groups are seen by Urbana's leaders as the representatives of the people in Potter Addition.)

This loss of community support has several sources. First, each organization has been based on what for the community was a fatal assumption: That Potter Addition and its people needed improving. While such arguments could be accepted by the population on the most general and abstract level, when applied to specific families or kinship groups, "mass rebellion" of a nature would occur. Secondly, the more stigmatized elements of the population have never really participated. Although the democratic ethos would never allow it to be said, they are the objects of the improvement. Thirdly, families have been constantly offended by actions or activities of group co-members. Such personal offense has been the basis for specific "rebellions."



Rebellion within the organizations is always silent. Members "vote with their feet." In both of these organizations conflict has never been sufficiently institutionalized and its disruptive effects neutralized. What struck this writer as most interesting about the meetings of these groups which he and his wife attended was the total lack of face to face confrontation in verbal resolution of conflicts. Most of the time, motions would be made and passed unanimously. No visible conflict could be found at these meetings. However, as one disgusted member of the youth club put it, "They won't say anything to your face when they don't like something, but they sure as hell talk a lot when they get back home in their own little group." That is, conflict was usually resolved, not in the threatening arena of group meetings, but in the cloistered confines of the clique. Thus the uplifting nature of these organizations as well as their inability to establish true consensus on issues during formal meetings have given these groups a very perilous and turbulent history.

It is interesting to speculate why there was no verbal confrontation. Perhaps the answer lies in large part in the fact that many lacked verbal skills or the "sophisticated" techniques to marshal arguments in the favor of a given issue. Another reason might be that unlike other voluntary associations, the individual's role in the association was not an isolated one of membership only. That is, when a person came to the meeting, he brought with him his kinship identity and the hidden but universally known array of stigma. When disputes of issues would arise, the objective nature of the dispute could very seldom be restricted to the issues at hand. Intense debate might sooner or later involve the individual in non-organizational aspects of his life. If an argument were to become intense, the issues might be forgotten, and personalities could become central points of debate. At this point the situation would become dangerously explosive and threatening to those involved. Conflict over any given issue might thus provide the thin edge of a wedge which would result in the end in the exposure of vulnerable aspects of individual biography and symbolic family estates.

A major problem lay in the inability of people to separate ideas and personalities. If an idea was debated and rejected, it was not interpreted as a rejection of only the idea but of the individual as a person also. However, the writer observed in his stay in the area enough of those potentially tense situations both in and out of meetings to suggest that the potentiality of such policy conflicts could escalate into situations of embarrassing exchange.

One factor which tended to hamstring associational life in the community was the inability of the people to disassociate organizational roles and activities from kinship roles and activities.

The principle of amoral familism has a major determinant of organizational ineffectiveness. Due to the inability of individuals to extend trust for prolonged periods of time to others outside of the kinship group and due to the fact of many officers unable to separate organizational office and kinship status, sustained organizational effort was continually undercut. Just as there could be no role of community critic independent of a kinship status, thus there could not be a role or organization leader independent of family ties.

The history of Potter Addition Youth demonstrates this problem in the most graphic terms possible. During a seven year history of this group, membership fluctuated from high to low four different times. An analysis of organizational records shows that membership size in the organization varied accordingly by family and peer group tie. In the beginning the youth club had broad community support. Within two years the elected head had resigned, and a new president elected. During this period membership and leadership was accompanied by a new peak in membership. During the next year membership declined once again and those who stayed tended to be members of a North-end clique. Approximately two years later the president resigned, and a new president took over. Club activity and membership once again rose and remained stable for approximately six months. At that point, however, many families left the organization because they felt that the new ruling family and peer group "were taking over." Indeed, there is evidence to support the idea that the new ruling clique, while attempting to lead in an honest manner, tended to use club property in such a way that the line between organizational property and kin property became blurred. From this point on membership declined, and soon the organization started a new cycle.

It is one of the ironies of organization in Potter Addition that successful implementation of club programs could be accomplished only at the expense of destroying its broad constituent base in the community. People could work more easily with kin at times and get things done; however, other kinship groups would sooner or later feel excluded and leave. The particularistic functioning of the group while it operated efficiently at the same time destroyed its broad constituent base.

At other times reliance of voluntary associations in the community on kinship groupings for efficient operation presented opposite problems. One particularly destructive incident for the youth club had its basis in activities external to that organization. Informants report that two sisters-in-laws used the meetings to work out antagonisms which were generated in their particular kinship group. The inability of anyone in the organization to assert the needs of the organization over those of the feuding kinship members all but destroyed the club.

In this section we have discussed the problems of collective action in Potter Addition. We have suggested that the nature of the social structure precludes the development of groupings which could act at the collective and community level to protect the residents of Potter Addition from the predations of larger institutions. The inability of individuals to separate organizational and kinship roles, the inability of the organization to establish structures by which conflict could be worked out in an orderly and open fashion, and the inability of family groupings to cooperate with other families in a trustful and nonthreatening atmosphere are all factors which impeded the development of supra-familial structures in Potter Addition. Thus, while Potter Addition constituted a community in the eyes of external institutions, no semblance of community could be discerned within the territorial confines of Potter Addition. Too many things acted to prevent the emergence of community structures in this fringe neighborhood. Perhaps the main argument of this section can be summed up in the following passage from Louis Wirth:

"Men live in a community in virtue of the things which they have in common, and communication is the way in which they come to possess things in common. Every community thus always has the dual aspects of living together, on the one hand, and participating in a common life on the other. In the plant and animal world it is quite sufficient to analyze community life in terms of symbiosis and competitive cooperation, the mechanisms of which are, so to speak, built into the organism. In the human community, however, we have never fully exhausted our powers of analysis until in addition, we have also understood the participation of the individuals in common enterprises, the sharing of common hopes and ideals, and the mechanisms of communication and social interaction which are not built into the organisms but which exist in language, collective symbols, laws and customs, in short, in a social heritage (Wirth, 1964).

Potter Addition lacked this commonality of experience. "Community" in its fullest meaning existed within the closed systems of kin and peer, but did not exist above those levels.

#### CONCLUSIONS

The problems confronting the educator and the population of Potter Addition will not be solved in the classroom. No amount of innovative, pedagogical techniques will change the basic relationship between the child of Potter Addition and the educational system. Since the problems have their roots outside the

educational system, no set of specialized teaching devices or teaching hardware will alter the basic lower class context. If we must ask why the lower class is a problem in the school, we must expand the question to answer it. We must ask why is the lower class problematic for the entire society.

Farber has suggested that the lower class is a superfluous population. Not only are they superfluous, their very superfluity is a prerequisite for the efficient operation of the industrial and political order. Norms of achievement and self-regulating markets, whether they be economic or educational, have their utility in the efficient allocation of physical and human resources.

The school system as it stands today is very much caught up in the efficiency orientation of the society. Not only is education and its availability a function of class, it itself is caught up in serving the most wealthy and powerful elements of the public culture. It is these elements which direct and effect the policies of the educational elite at the local level. It is this combination of elites which sets the criteria of "intelligence" and hence imposes on the educational system the achievement criteria of the public culture.

While it may be true that local educational policies are formed by the operation of veto and pressure groups, such a model can only take into account the upper income segments of our society. The superfluous poor are isolated from any such power arrangement. Thus from the perspective of the bottom, there is little that can be done to effect the educational system in a grass roots manner.

Indeed, to establish a curriculum by which the needs of the lower class could be met by the school system would be dysfunctional for the maintenance of the established order. First to allow the lower class to have a voice in the educational system would require a reallocation of educational resources. This would require shifting resources from activities which socialize the child into norms of the public culture. Such an allocation of resources would not be consistent with the assumed efficiency norm of rational bureaucratic structures. Beyond the question of the schools, the transformation of the non-service norm of the school system vis-a-vis the lower class would have disastrous consequences for the ordering of social institutions. If the educational system were to somehow deal with the lower class in such a way as to alter its superfluous status, it would be destroying a necessary industrial reserve army. Such an industrial reserve force, Farber has pointed out, is necessary for efficiency-based social systems to meet the needs of change and innovation (Farber, 1968, pp. 3-23). Thus if the school is to be an efficient replicator of contemporary public institutional life, it cannot meet

the needs of the lower classes effectively. If anything, it must continue to be an instrument of stigmatic labeling, degradation and suppression. It must operate with the rest of the public culture to perpetuate a passive industrial reserve army.

The broad functions but narrow aims of such programs which have a remedial relationship to the poor will in the end do more harm to the poor than good. For in learning the techniques necessary to survive in the present public culture, the price required is the dislocation of the child from the social and cultural world of the parent. In the end it is designed to cut off the child from the protective and affectively based strategies and commitments that have been developed to meet the demands of the lower-class world.

Suppose, however, the educational system were to serve Potter Addition and its kind at all costs. If the school system were to develop meaningful programs for the lower class which would alter their basically superfluous status, it would be undertaking a task of revolutionary proportions. The War on Poverty and Operation Head Start are essentially programs which attempt to solve the problems of the poor without commitment to a structural solution of the problem. Such programs are essentially designed to socialize the lower class individual into the public culture. (For an expansion of this, see the theory section of this report.) The aim of such programs is to give him educational techniques by which he can succeed in terms of public rationality and intelligence. However, such programs seldom deal with the basic problems which lie in the social strata system itself.

The recommendations of this report are not concerned with detailed critiques of techniques. As has been stated, the problem is not educational and technical; it is political. Its roots extend to the very value premises of our society. Thus special programs are impotent if they ignore the community and social context of the school. In the case of Potter Addition, the problems of education vis-a-vis the community lie in the very public culture which the school serves. The public culture out of necessity creates Potter Additions. To bring about changes of an enduring nature, the public culture itself must be transformed. The norms of the public culture and its emphasis on institutional efficiency will have to be either discarded or be given a new position in the hierarchy of social priorities.

Needless to say, this will require some fundamental rearrangements of power in the society. Special educational programs and guaranteed annual incomes and other remedial measures in and of themselves will not solve the plight of the schools nor the populations which they service. What is at issue here is a radical redistribution of power, the autonomy which comes with power and the ability of people to preserve and change cherished life styles at the pace which benefits them.

## PART III

### Problems of Competence Development Among Ghetto Residents of a Middle-Sized City

Michael Lewis

#### SECTION I: INTRODUCTION

##### The Rationale

The study reported on in the following pages grows out of two basic sociological concerns, both of which--given the problems confronting them--ought to be important in the thinking of professional educators. The first of these may be stated as follows:

The American racial dichotomy which for hundreds of years has relegated Negro Americans to inferior caste position is now in the process--long overdue to be sure--of breaking down. It is difficult to estimate just how long it will take for the remnants of the dichotomy and caste mentality to disappear from American life. Even the most optimistic among us, however, recognizes the difficulties which must be honestly confronted if real headway is to be made toward an *integrated society* in which race is not a significant factor in determining access to opportunity. Aside from the political resistance to the abolishment of the dichotomy, the major difficulties which must be confronted are those which might be termed the *factors of impediment* internal to the black community itself. Put as simply as possible, such *factors of impediment* may be understood as those structural conditions which have developed in response to exploitation and exclusion, impede, or, indeed, prevent those individuals who live in terms of them from taking advantage of opportunities for full participation in the mainstream of American life. It is increasingly clear to both dispassionate observers and passionate advocates of the black man's cause that if by some miracle all the political barriers to full participation were to be obliterated today or tomorrow many Negroes (victimized by the factors of impediment) would be unable to make successful use of their new-found access to opportunity; and, as a result, black men would remain over-represented among the ranks of the underclass. Thus while every effort must be made to continue the struggle against arbitrary exclusion, we must also recognize that without attending to the eradication of impeding factors political victories which ostensibly

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open up mainstream opportunities would be pyhric indeed.

We have undertaken the study reported on in these pages in order 1) to make more intelligible the nature of the *factors of impediment*, and 2) to see if it is possible on the basis of sociological analysis to recommend strategies of intervention intended to mitigate against the deleterious impact of such factors; it should be noted at the outset that some of these strategies may indeed imply changes in the philosophy as well as the organization and methodologies of those agencies--the schools, the welfare agencies, etc.--which are most consistently involved in intervention against these factors.

The second of the underlying concerns informing this research may be outlined as follows:

There is in contemporary social science too little attention being paid to a comparative urbanism within boundaries of American society. This is particularly true of sociology. We have, in much too facile a manner, assumed the unity of characteristics (and phenomena) in all communities commonly identified as urban. Obviously when we think about it there would appear to be some very basic demographic, ecological, and social structural differences between different urban communities. And in some instances regional conditions and local history may be differentiating elements. There are different kinds of urbanisms in the United States and we need to refine our conceptions of what the urban experience is. That it is variable is a safe hypothesis. We need, however, to specify the parameters of this variability.

For those who are interested in educational innovation and other forms of intervention calculated to mitigate against the impeding factors which are products of the American racial dichotomy, the importance of such a comparative urbanism can not be overestimated. As urban contexts vary, so too may the constellations of impeding factors; and, consequently, there may be a definite need to vary strategies of educational and welfare intervention so that they will be appropriate to the community in which they are being applied. Even if the constellation of impeding factors is relatively stable from one kind of community to the

next, the variable social contexts in which they are housed may necessitate the adoption of varying strategies of intervention. It is a working hypothesis of this research that, at least in some measure, what the innovator must do in, for example in Harrisburg, Pa., in order to make his laboratory-tested intervention effective in the field, will have to differ in some respects from what he would have to do in New York City or Chicago or, indeed, in Dallas, Texas or Las Vegas, Nevada. It seems to the principal investigator that just as sociologists have often over-simplified what they mean by urban, focusing more often than not on metropolitan communities, so too have those who are concerned with innovation and intervention neglected the variations in social context which are characteristic of the different urban communities in which their innovations must ultimately be applied if they are to be considered successful at all.

We have undertaken the study reported on in these pages to take a first step toward a systematic comparative urbanism within the boundaries of American society. In particular we have done so with special attention to those conditions which are either in need of change as the result of educational and welfare intervention or which might conceivably affect the kinds of innovative strategies necessary to make such intervention effective. In one sense our study is not comparative because we make no systematic attempt to draw comparisons between different types of communities. Instead--for reasons elaborated below (see section on methodology), we have chosen to study *a nonmetropolitan urban community intensively*. Out of this study we hope to make a beginning in developing strategic guidelines for educational and welfare intervention in like communities. A full elaboration of guidelines for intervention must await further systematic study.

#### The Competence Framework

Social science literature contains a number of studies which attempt to assess the nature and extent of the damage visited upon Negro Americans as a result of the racial dichotomy, so long a social fact in this society. General and historical studies such as Gunnar Myrdal's landmark *An American Dilemma* and John Hope Franklin's *From Slavery To Freedom* have attempted to give us an accurate record of the black man's institutional response to the exploitation--both systematic and wanton--which has been characteristic of white society's demeanor toward him. E. Franklin Frazier's classic *The Negro Family in the United States* and Daniel Patrick Moynihan's highly publicized



memorandum *The Negro Family: The Case For National Action* have etched in the memories of all who have taken the time to read them a picture of unrelenting matricenteredness among the black lower class and a Jeremiah-like forecast of increased difficulty for such families in urban areas if massive doses of aid and reform are not applied forthwith. A number of psychologically-informed studies have attempted to evaluate the personal impact of the dichotomy in the lives of Negroes by either adopting a holistic biographical approach or by attempting to measure trait differences as between black and white. Among the former have been John Dollard's *Caste and Class in A Southern Town* in which he concluded that Negroes developed an accomodating caste psychology whereby aspirations for personal accomplishment were lowered to conform to the realities of caste limitations present in the community he studied (the accomodative psychology was most pronounced among lower-class Negroes); Allison Davis and John Dollard's *Children of Bondage* in which they concluded that while the racial dichotomy affected all Negroes it affected them differentially with the lower class developing personal styles which attempted to compensate for caste restrictions by giving relatively free expression to sexual and aggressive impulses; and Abram Kardiner and Lionel Ovesey's *The Mark of Oppression* in which they concluded that their intensively-studied 25 subjects had been maimed by the conditions of the racial dichotomy; that their potential for healthy expression of affect had been lowered, their sexual identifications had become conflict-ridden, their conscience mechanisms had become distorted and their self-esteem had been gravely impaired.

Among the trait studies, the following may be cited as typical: An investigation of manifest anxiety found that Negro children evidenced that quality to a greater degree than white children of the same age (Palermo, 1959); a study employing the Thematic Apperception Test (TAT) found that Negro boys between the ages of 10-14 viewed their environment as much more threatening than did a comparable group of white boys (Mussen, 1953); a study using the MMPI on a small group of Negro and white hospital patients found that Negro men evidenced "a more feminine pattern of interests" and more "bizarre and unusual thoughts" (Hokanson and Calden, 1960); while still another study has indicated that Southern Negro men tended to be less aggressive in the face of frustration than Southern white men, while in the North the pattern tended toward reversal (McCrary, 1951).

As even a superficial reading of their results indicates, none of the personal impact studies approaches definitiveness.

Moreover because, for the most part, they focus upon personality characteristics or psychological states rather than behavioral patterns or predispositions, such studies fall short of providing a basis for planned intervention. It is in the nature of the case that personality characteristics and internal psychological states do not translate on a one-to-one basis into specific behavioral characteristics. Thus, even definitive knowledge of the psychological impact of racial victimization would not necessarily mean that we had the key to an understanding of the *impeding factors* we have noted above. The Dollard findings would seem to imply behaviors which might obstruct access to "mainstream" opportunities--i.e., lowered aspiration level--but the other studies cited leave indeterminate the relation between personality and behavior. Heightened anxiety may or may not impede those behaviors necessary--let us say--for economic success; it is entirely possible that anxiety may serve as a goad which drives the individual on to ever greater effort. The same may be said for other characteristics such as identity confusion, fear of environment, bizarre and unusual thoughts, the free expression of aggression and so on. Granting for the moment that these traits appear disproportionately among Negroes, we do not know whether they are in fact among the impeding factors we seek to elucidate.

In our attempt to understand the nature of the impeding factors blocking access to opportunities for Negroes the personality perspective is, thus, of little avail. Accordingly, we have adopted a framework for our investigation which because of its emphasis upon normative problems is sociological rather than psychological. We shall call this framework the *competence perspective*. A brief depiction of this framework now follows:

Competence is defined for our purposes as the ability of an individual to approximate in his or her behavior standards of quality which are institutionalized for specific roles. Competence is thus a social dimension, the *action counterpart* of institutionalized expectations for role performance.

When we consider an individual's competence our consideration is specific to a particular role or complex of roles. In American society we can distinguish between two classes of role in which as a matter of course we take measure of an individual's competence. The first class may be designated

as *volitional*, the second class as *prescriptive*. *Volitional roles* are those roles which the individual chooses more-or-less idiosyncratically. As examples we might suggest particular vocational roles such as doctor, plumber, teachers, etc. It is characteristic of this class that an individual is not censured for his refusal to undertake any particular role in the class. Questions of the individual's *competence* in this class are relevant only with respect to those roles to which he has made a commitment. *Prescriptive roles* are those roles which, given sex and age differentials, *all* (or nearly all) individuals in a particular society are expected to undertake. Failure to do so subjects the individual to varying degrees of social censure, ranging from mild disapproval to public condemnation and exclusion, although the mere undertaking of the role does not insure social approval. Approval is a function of the individual's ability to meet institutionalized standards of performance for the roles in question--or in other words his *competence* in these roles.<sup>1</sup>

Before continuing with this brief elaboration of the framework, let us pause momentarily to reflect on the implications of what we have presented thus far for the purpose of our study. Given the gradual expansion of mainstream opportunities for black Americans there is need to focus upon the *conditions* impeding success in these opportunities which, although they are ultimately the products of the exploitation inherent in the racial dichotomy, are in the immediate sense woven into the fabric of black society. These factors may operate on any or all of a number of different levels. It may be that there are particular institutional (or structural) characteristics, perhaps matrilocally with regard to the family system, which impede success in the mainstream. It may be that there are subcultural emphases--the "cool world of the hustle" or the expressive nihilism of the most militant brands of black nationalism--which deflect the attention of those who partake of them from the opportunities in the mainstream. It may be finally that the overrepresentation of certain psychological traits among Negroes does, indeed, predispose

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<sup>1</sup> *Note:* This discussion and the following material on competence is adopted from the principal investigator's earlier work. For an extended discussion of the competence perspective see:

Michael Lewis, *Competence and the American Racial Dichotomy: A Study in the Dynamics of Victimization* (unpublished doctoral dissertation, Princeton University, 1967). See Chapters I, II, and VI in particular.

many of them to failure in the mainstream.<sup>2</sup> The competence framework does not of itself allow us to analyze the underlying sources of impediment; but by focusing upon roles rather than personality at the outset, it provides us with a way of categorizing the behavioral areas in which the impediments occur. Because by definition both the roles and the standards of competence applicable to them are derivatives of the dominant normative consensus in any given society (i.e., the "mainstream") the use of such a framework permits us to specify just those areas in which those we are studying fail, as it were, to make their connection with that society. An accurate specification of default will in turn provide us with a point of departure from which we might then begin a more systematic analysis of the sources of impediment--institutional, sub-cultural, psychological, etc. Theoretically at least, the combination of such classification of impediment together with the analysis of its sources should provide a basis for rational intervention on the part of those whose commitment is to the freeing of the potential of those who bear the burdens of exploitation and repression.

Returning to the explication of the competence framework the following are presented as the *prescribed* roles in which competence is almost universally evaluated. We outline these roles together with the standards of adequacy generally used to evaluate performance in them. We focus on *prescribed* roles because culturally speaking they and the standards of performance associated with them are social facts universal to our society and are, consequently, beyond personal manipulation by any given individual. The requirement of participation and the standards of adequacy are applied mercilessly to us all.<sup>3</sup>

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<sup>2</sup> *Note:* We should, of course, be aware of impeding factors external to black society. These include actual blockage or discrimination and more subtly the holding back of cues and information necessary for success in the mainstream. We will have more to say about this latter circumstance in later sections of this report.

<sup>3</sup> *Note:* We take the position that, subcultures notwithstanding, there is a generalized normative core applicable throughout American society. Competence expectations are derivatives of this normative core. While this is an issue about which there is some controversy, there is support for the position adopted here in the literature. See, for example, Robert K. Merton, "Social Structure and Anomie," *Theory and Social Structure* (Glencoe: The Free Press, 1957), pp. 131-160.

And, Albert K. Cohen, *Delinquent Boys: The Culture of the Gang* (Glencoe: The Free Press, 1955), p. 87.

As follows, the prescribed roles and their associated standards of performance are:

*For Men*

1) *Breadwinner in the economy:*

As an absolute minimum we expect a man to work regularly at a job which provides him with the means of securing a satisfactory standard of living for himself and his family (assuming of course that he is not arbitrarily excluded from economic opportunity). Relative to the number and type of a man's dependents he is performing competently if he works regularly at a job which provides him with the means to meet both his own basic needs and those of his dependents. A second aspect of such competence is the individual's ability to put his earnings to efficient use. We expect that an adult male will be capable of allocating the means at his disposal to meet his needs and those of his spouse and children in such a manner that no one who is dependent upon him will suffer undue hardship. Thus, a man who works at a job which theoretically provides him with necessary means but who squanders it while those depending upon him for support go without the necessary food, clothing, health services, etc., is a man who is economically *incompetent*.

2) *Husband in the family:*

We expect that an adult man--unless he has a special dispensation which suspends the expectation as in the case of a Roman Catholic Priest--will contract and sustain a publicly symbolized conjugal relationship. In today's marriage a man is expected to be able to give fully of his total self, to be able to commit his entire personality to the relationship. No longer a matter whose control rests beyond the principals (as in kinship dominated societies), marriage has become a relationship in which individual volition is recognized as the only acceptable source of contract and the only legitimate basis for continuation. Marriage in our society is ideally a "voluntary association" admitting of only two members in which exclusive commitment to each other is expected. A man must, therefore, be capable of an "authentic presence" in the relationship. Such a presence entails skill in communicating the self and skill in meeting the affective and sexual needs of his spouse.

3) *Father in the family:*

We expect that as a matter of course an adult man will make the biological and interpersonal investments necessary to father at least one child. We expect a father to be concerned and responsible for the well-being of his children until they are capable of independently maintaining themselves. Such maintenance, of course, includes their material sustenance. Beyond sustenance, however, we expect a father to be capable of demonstrating sincere interest in his children. We expect him to present a positively toned model of masculinity to his children, to provide a socially acceptable model for his sons to emulate and his daughters to respect. Furthermore, the competent father is expected to exercise legitimate authority over his children, to govern them (in concert with mother) for their good and welfare both present and future. Accomplishing all this requires of a man that he be "skilled" in establishing interpersonal rapport, that he be capable of listening to, empathizing with, and articulating the needs of his children with the appropriate models of behavior in our society.

*For Women*<sup>4</sup>

1) *Wife in the family:*

The personalization of American marriage places essentially the same demands for interpersonal competence on both husband and wife in the conjugal relationship. Like her spouse, we expect a competent (or good) wife to make a total commitment of self to her marriage; to project an "authentic presence"; to meet the affective and sexual needs of her husband in a manner which is mutually gratifying.

2) *Mother in the family:*

In contemporary American society it is common

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<sup>4</sup> *Note:* Despite the increased direct participation of women in extra-familial performance areas, e.g., the economy, the family remains the most legitimate single area of feminine participation and is, consequently, the primary area in which we take measure of a woman. No woman is censured for either vocational incapacity or the desire to avoid direct involvement in the world of work. We do, however, "wonder" about a woman who forsakes family life entirely in pursuit of a career. The family roles are *prescribed* roles for women in American society.

to expect that a married woman will make the necessary physiological investment in the bearing of at least one child. A wife's refusal to bear children evokes severe censure and is itself grounds for the dissolution of a marriage. Traditionally, the primary responsibility for the health and welfare of minor children has been vested in the mother. Thus, we expect a woman with children to have the necessary skills for creating an atmosphere of physical and emotional security for them. We therefore expect a woman 1) to be able to turn the means of sustenance into the operations of care, 2) to provide nourishing meals for her children, 3) to attend to their health needs promptly and efficiently, 4) to see that her children are adequately clothed, 5) to provide them with the physical security necessary for undisturbed growth which, as a consequence of their physical and social immaturity, they cannot provide for themselves. Beyond physical care we expect the mother to be an affective specialist. The essence of maternal care, we say, may be found in the mother's capacity to invest herself fully in a relationship with her children, in her capacity to listen carefully to their expressions of need and ultimately to meet these needs when they are "realistic." Beyond this, we expect a mother to present an appropriate model of femininity to her children, one which her daughters can emulate without running afoul of current social expectations and one which awakens admiration and respect in her sons.

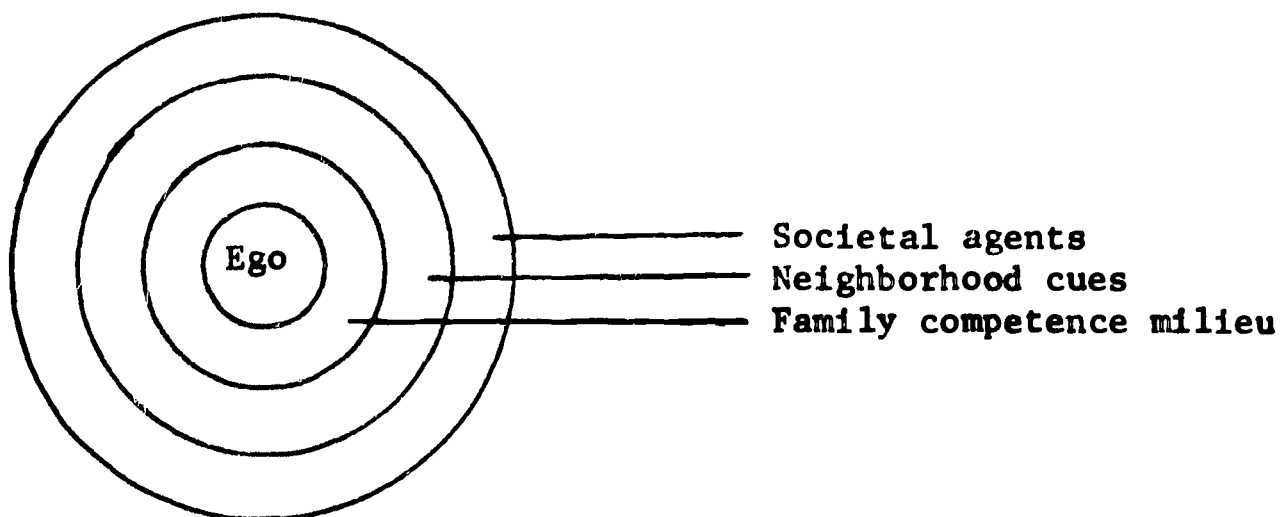
3) *Homemaker:*

A woman is expected to keep a clean and orderly house. Even in situations where the means are limited, where furniture cannot be easily replaced, and where a woman must do without the so-called "labor saving conveniences," she is expected to attend regularly to housekeeping chores. Beyond actual housekeeping a woman is expected--within the limits of her means--to be the family's arbiter of taste. She is expected to show some concern for what will constitute the aesthetic (decorative) aspects of her domicile. Standards of "good" taste change rapidly but whatever the existing standards may be, the adult woman is expected to be attuned to them and to translate them into physical realities within the home.

Before concluding this introduction to our study we should

like to present the following model of competence development. The model is an important one because it has informed the inquiry we are reporting on in these pages. The reader is, however, cautioned not to expect strict conformity to its characteristics in later sections of this report. Our model is heuristic in nature; its use has sensitized the researchers to certain problems and configurations of socio-cultural characteristics relevant to the intent of our investigation.

Every individual during his childhood and adolescence is confronted with three sources of influence which either encourage maximum development of competence potential or impede that development. These influences may be noted as follows: 1) the agents of society's expectations for role competence (i.e., teachers; and in some cases social workers; scout leaders; and other adult youth workers), 2) the cues emanating from the neighborhood environment, and 3) the competence milieus in their family contexts. These three influences constitute a network playing upon the growing individual which can be visualized as a series of concentric rings which surround him throughout the developmental stages of his life.



The operation of this network may be described in terms of a *logic-of-influence* which can be explicated as follows: Each ring (or source of influence) is characterized by a different quality of intensity in its impact upon ego, depending upon the degree of intimacy between the source and ego. We posit that intimacy is greatest between the child (ego) and the familial competence milieu and least between the child (ego) and the societal agents. The neighborhood sources are intermediate.

The societal agents such as social workers and teachers extend to the child competence expectations which emanate from the society's dominant core of values. The relative lack of intimacy in the relationship between ego and these agents is characteristically the result of limitations inherent in the roles of the agents. Teachers, of course, deal with relatively large numbers of children in a single class. In such a circumstance they are rarely able to invest themselves in relationships of some intimacy with most



of their students. They, therefore, deliver the competence "message" formally, and only rarely is there an opportunity for intimate and informal feedback. Social workers have as a tenet of their professional code noninvolvement beyond the limits of "therapy." It is rare to find a social worker who invests his own biography in his relationship with "the client." Thus the competence "message," while it is given repeatedly, is more often than not given in an intellectualized or stylized manner and there is little opportunity for ego to explore with the worker the performance implications of the "message." In sum, while the agents may persistently "deliver the message" they do not engage those to whom it is delivered in relationships of sufficient intimacy to indicate *how*, in their own lives, they practice what they preach. In such situations the intensity of impact cannot be too great.

The immediate neighborhood is, for ego, the arena in which he does much of his informal learning. It is in the neighborhood that his peer relationships develop and it is the area in which the child observes the fullest panoply of life on a day-to-day basis. For the growing child it is the immediate neighborhood which provides the first non-familial reference groups. Interaction tends to be less structured and delimited by specific role playing than it is in formal interaction with societal agents. Because of this and because of the prolonged contact the child usually has with this environment, the lessons he learns from his neighborhood encounters are likely to be felt quite intensely. Therefore the competence cues which emanate from ego's immediate neighborhood are likely to have a lasting impact upon him. Unlike the stylized formal competence "message" of the societal agents, the neighborhood cues reach the child informally in the course of diffuse encounters.

The family, generally speaking, is for the child the context of greatest intimacy over a long period of time. It is characteristic of the nuclear family unit that it provides a setting in which interaction between parents and children involves the highest degree of personal self-investment. Because of this and because of its temporal primacy this unit is generally viewed as the key unit in the socialization process.<sup>5</sup>

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<sup>5</sup> *Note:* This is of course recognized in the classic formulations. See: G. H. Mead, *Mind, Self and Society* (Chicago: University of Chicago Press, 1934).

See also: Talcott Parsons and Robert F. Bales, *Family: Socialization and Interaction Process* (Glencoe: The Free Press, 1955).

The competence milieu in the nuclear family unit (which is the product of the quality of adult performance in their sexually appropriate roles) confronts the growing child with the greatest intensity. The interaction is relatively unstructured and the child is himself involved in the behavior of his parents. There is nothing formal or stylized about the competence cues the child picks up in this context.

When the three sources of competence influence are *integrated* in their impact on the child (that is, when both the immediate neighborhood environment and the familial competence milieu generate competence cues which are in proximate agreement with those extended by societal agents) the situation is optimal for the child's ultimate development of expected role competence. The cues at each level of intensity are all in the same direction. When, however, there is discontinuity between the cues emanating from the three sources an impediment to the development of role competence becomes a factor. The severity of the impediment, we would hypothesize, is a function of the location of the discontinuity, i.e., in which of the sources with their varying intensity of impact does it occur. In increasing order of severity we can note the following impeding situations in which the expectations for ultimate role competence development must be less than optimal.

1. Integration of cues emanating from societal agents and those emanating from familial contexts. Discontinuity is located in the neighborhood environment which tends to generate cues which deviate from societal expectations.
2. Integration of cues emanating from societal agents and neighborhood environment. Discontinuity is located in the familial context which generates cues which in some measure deviate from societal expectations.
3. Discontinuity is located in both neighborhood environment and familial contexts. In both cases competence cues are generated which deviate from societal expectations. This type represents the integration of the sources having the most intense impact in opposition to the societal agents, who, while representing standard expectations, have the least intense impact

because of role limitations.<sup>6</sup>

Thus in the logic we have developed, the severity of the impediment depends upon the expected intensity of the source in which the discontinuity occurs. The greater the intensity of impact, the greater the impediment as a result of the discontinuity.

If one assumes, as we have, that the competence framework provides us with a viable approach to understanding some of the impediments to full social participation which have become over-represented among Negro Americans, then this *logic-of-influence* formulation is of significance on two levels. First, it provides the researcher who is interested in this problem with a built-in paradigm which can be used to organize his inquiry in any given community setting. Assuming the general validity of the model, it becomes the task of the researcher to characterize in as concrete a manner as possible the operation of the sources of influence in that setting. Second, it provides a standardized basis for the comparative inquiry into this problem in varying urban contexts within American society (see above discussion of the necessity for such inquiry pp. 108-109). Theoretically, the use of this model to inform a series of studies in representative American communities would yield a sociological map of the relevant variations which in turn could provide an empirically grounded basis for intelligent innovation and intervention in pursuit of those reforms necessary for effective remediation of circumstances which deprive so many of their birthright in this society. Because of the importance of this model for such inquiry, let us now take a closer look at its research implications. Application of the model will allow us first to specify the internal variations, if any, which are characteristic of each source of influence from one community to the next. For example, although the model assumes the extension of competence expectations by societal agents in almost all communities (excepting those communities in the Deep South) the consistency and, indeed, the intensity with which they are extended to blacks

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<sup>6</sup> *Note:* There is, of course, a fourth type of situation, one which in fact presents the greatest impediment to competence development. *It is possible for all three levels of influence to be integrated against the maximization of competence potential.* Such a circumstance would occur when the societal agents do not present the institutionalized competence cues. This occurred and probably still does occur in the American South where it has been characteristically assumed by the controlling whites that Negroes should *not* behave in the same manner as whites.

may vary from one community to the next. This may depend upon a number of factors which the research should attend to--the *ideology* and personal attitudes toward Negroes of those who take such roles as teacher and social worker; the organizational imperatives which govern their contacts with Negroes; and, indeed, the very scale of the bureaucracies which either makes the worker or teacher "effective" or bogs him down in a myriad of tasks which may be organizationally rational but functionally counter-productive. Neighborhood factors as producers of competence cues may also vary from one community setting to the next. In one type of urban setting nearly all the Negroes may be impacted in a single ghetto area. When such is the case one of two possibilities may occur. If the community is such that the job structure is fairly open to blacks, then the ghetto area may, in fact, contain a fairly wide range of competence styles in both the prescribed performance areas. In this situation the kind of *immediate* reference group the child develops will determine the direction of the competence cues operating upon him. If on the other hand, the community is such that the job structure is strictly limited, then the range of competence styles in the ghetto will tend to be narrow and most probably the cues operating on the child will all be in the direction of styles which violate "mainstream" expectations. In such a case it would probably be true that almost every black child would be confronted with deviant competence cues emanating from neighborhood sources. In other communities still, the racial ecology may vary so that the Negroes are physically separated according to their social status. In such a community one would find middle-class Negroes living in one neighborhood while the working class and under-class Negroes are consigned to the slum-ghetto. On the assumption that middle-class Negroes most closely approximate in their life style the mainstream competence expectations, the children of the ghetto would in such a case be largely deprived of the opportunity to experience such styles or cues in their neighborhood. On the other hand the middle-class black children would not be threatened by the accessibility of deviant cues which might, had they been living in the slum-ghetto, impede their progress into the "mainstream." As far as the family competence milieus are concerned there will obviously be some variation from one individual to the next in a given community. But it is entirely possible that *the modal type of competence milieu* for black families may vary according to certain kinds of community characteristics. For example, one might hypothesize a more deviant modal type in those communities which have a high proportion of recent migrants from the South. Moreover one might argue that the greater the isolation of the black community from the community-at-large--economically, culturally, etc.--the greater the possibility of family competence milieus which deviate from mainstream expectations. In any case there may in fact be characteristic

differences in familial competence milieus from one community to the next and any research employing the competence framework should not take for granted that it will be one way or another. What the characteristic competence milieu is, is an empirical question.

The comparative application of the model--when it is concretized by systematic empirical research--should, moreover, provide us with a characterization of types of American communities according to the degree of favorableness to the maximization of the Negroes' competence potential in prescribed or "mainstream" roles. Theoretically a systematic comparison using the *logic-of-influence model* should not only yield a picture of the nature of influence at each level (inclusive of the structural, cultural, and social psychological factors which define what direction that influence will characteristically take) but also a picture of the characteristic continuity or discontinuity between sources of influence as these are associated with a distribution of different types of communities in which black Americans characteristically find themselves.

The accomplishment of such a systematic comparative analysis using the *logic-of-influence model* would provide an empirical basis for intervention strategies. Innovators in education and public welfare would be able to consult the analysis and adapt their expertise to the different types of community settings in which they hope to have success in contributing to the maximization of the black man's competence potential (so that he in turn might compete successfully for the social and economic rewards so long denied him). Different settings will no doubt demand different strategies. We must emphasize once again, however, that the study reported in these pages does not accomplish the goal of such a systematic analysis. It is a study of *one community*; of *one setting* among the possible variations and while it is informed by the model we have outlined above it does *not*--for reasons which will become clear as we go along--strictly conform to its tenets. We present the study as a tentative and long overdue first step in approximating the comparative analysis of the black man's urban experience in America with particular reference to those factors which have impeded his development of those competencies which are characteristic of individuals who "make their connection" with the "mainstream" and reap

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<sup>7</sup> *Note:* It should be emphasized once again that in any community there will be some variation from family to family and from one child to the next. Such research as we are discussing, however, must focus not upon the individual differences but rather upon the conditions which best describe the nature of familial competence influence in general.

the rewards proffered therein.

Let us now turn to a specific discussion of the methods employed in this study.

## SECTION II: THE METHOD OF THE STUDY

The methods of social science have, in recent years, increased in sophistication. Social scientists can call forth from their repertoire of methods high powered statistical approaches, experimental designs allowing for ever more careful control over variables, mathematical simulations, etc. Things have come to such a pass that practicing sociologists have difficulty keeping abreast of the latest developments, and most academic departments either employ or seek to employ methods specialists who, besides teaching graduate students, serve as consultants to their less "sophisticated" colleagues. It is a cultural fact of life in contemporary American society that the more complex a method, a machine, or a process, the more it attracts attention both from professionals and the relatively uninitiated. So it has been in American social science. The more exotic the method the more often it can be clothed in high level and quantifiable abstractions, the more attention it attracts, and the more confidence is placed in its use.

While this is generally true among social scientists themselves it is even more frequently true of those non-social scientists in ancillary professions (i.e., in education, welfare, health, etc.) to whom social scientists often address themselves. It is not our intention to offer a full-blown critique of this trend but only to caution against too facile a devotion to "sophistication" (Mills, 1959) particularly when the sophisticated method can have little payoff in confrontation with meaningful social issues. We caution against the *inhibition of method* in which problem selection and/or formulation is governed by the researcher's commitment to a particular investigative style. We suggest that social scientists fit their method to the issue rather than vice versa, and that their audience develop an awareness of the fact that what is most *sophisticated* is *not* always most *relevant*. The questions which ought to be considered are: does the method fit the problem? does it take the investigator and his audience as far as possible in the direction of meeting the requirements for solution of a problem which has significance in the real world?

These general remarks are intended as a preamble for the methodological apologia which follows. Their appropriateness will soon be apparent, for as we describe the *conduct of our inquiry* the reader will no doubt discern a certain paucity of the "sophistication" we have just noted. What we have done is simple in conception although painstaking in execution and we consider it the most fruitful approach to our problem.

## The Method of the Study: A Sociology in "Vivo"

Unlike many examples of the sociological enterprise our research was not undertaken to make a contribution--either theoretical or methodological--to the discipline of sociology. Two assumptions underlie this less than sanguine orientation toward the discipline. First, we assume that the issues surrounding efforts to establish racial equity in this society are so desperately in need of analytic intelligence that those possessing the tools for such intelligence must make use of them whether or not they are contributing to their discipline. Second, we believe that contributions which advance the discipline of sociology are more likely to come as the results of an application of the *sociological imagination* to issues of significance in society than when the scholar makes a conscious, purposeful attempt to advance the discipline. We believe that contributions to the discipline are often the unanticipated gains of scholarly confrontations with problems or issues which seem to cast in doubt the assumptions by which men live in normal society.

Ours is thus an exercise in *sociology in vivo*--an application of the sociological imagination to the flow of events as they confront us as actors in the society we seek to understand. We seek not those abstractions which simplify--and sometimes oversimplify--our apprehensions of reality. Nor do we seek those sweeping generalizations by which the analytic power of sociology is often measured. We are content to elucidate if we can those *social logics* which are operative in issues we deem significant in a setting we regard as important. In this regard we hope to depict in as clear a manner as possible 1) *what* is happening; 2) *how* what is happening does occur; and, hopefully, 3) *why* what is happening does occur.

There will probably be no challenge to our assertion that the racial dichotomy is a source of significant issues in American society. As far as our use of the competence framework is concerned the reader is directed to section I of this report for an elaboration of its significance. Some may, however, question the importance of the setting we have chosen for our investigation. Thus, before we proceed further with our discussion of method we should like to explain our choice.

### The Choice of Community

There have been many studies of Negroes in urban areas. There have been relatively few studies outside the South which have *not* been concerned with Negroes in large metropolitan areas. Moreover, much of the thinking with regard to innovation and intervention in behalf of the impoverished--black or white--has taken the large metropolitan center as its point of reference. Finally, because of the recent spate of riots and related violence the race problem



has become identified in the public mind with the "crumbling metropolis and its ghettos."<sup>1</sup>

The reader will remember that one of the concerns generating this study is the perceived need to broaden our understanding of the impact of the racial dichotomy in terms of variable urban contexts. Thus, in choosing the setting for our study we deliberately ruled out a large metropolitan area. In the original conception we hoped that we could select a non-metropolitan city which in some measure met the following requirements: 1) that it be large enough so that in absolute numbers there would be a black population large enough to allow a prima facie case to be made for the meaningfulness of the study; 2) that it be large enough to support a range of educational and welfare services similar to those found in large metropolitan cities albeit on a smaller scale; 3) that it be a community which is neither suburb nor satellite of a large metropolitan city.<sup>2</sup> While the first requirement would have had to remain operative in the selection of any setting for the research, the others might have varied. Alternatives might have been to study a community in which the full range of educational and welfare services were not provided as a matter of course within its boundaries, or to study a satellite city of a large metropolitan complex--perhaps a suburb in which the full range of services was not provided by the community itself.

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<sup>1</sup> Note: Not all the riots occurred in metropolitan centers--a number of other kinds of urban areas such as Rochester, New York, and Waukegan, Illinois have seen riots. Nevertheless, the riots in Watts, Los Angeles; Hough, Cleveland; Chicago's West Side; and Harlem, New York City have attracted the most intensive and extensive media coverage; and as a result the racially toned property riots of the 60's have appeared to be "big city" phenomena.

<sup>2</sup> Note: We recognize the ad hoc nature of our criteria for selection. It might be argued that in developing a strategy for the comparative study of American urbanism--of which our research is one case--we should have used criteria derived from one or another of the extant schemes intended to classify different types of city, e.g., Albert Reiss, Jr., "Functional Specialization of Cities" in Paul K. Hatt and Albert J. Reiss, Jr., *Cities and Society* and *The Revised Reader in Urban Sociology*, (Glencoe: The Free Press, 1957). Without going into detail about these classificatory schemes, we can only note that the criteria were not drawn from them because they did not seem particularly relevant for the analysis we have undertaken.

What is needed and what we did not have when we undertook this research is a method of sampling communities which would give us some assurance that the community chosen for study is representative of a class of like communities. The use of such a method would establish with greater exactitude than is now possible the limits upon generalization and strategies for intervention derived from the study of any given community. Lacking this we can only generate the criteria for selecting a community on an ad hoc basis; and the class of communities to which our findings are applicable must remain somewhat vague.<sup>3</sup>

Why was this particular set of criteria selected for the first of a series of community studies? We chose these criteria because they led us to a community for study which most closely resembled the kind of city--the large metropolitan center--which up until this time has attracted the most attention. We were, thus, able to focus attention on what is probably the most uncomplicated dimension by which cities vary, *scale or size*. Clearly, it would be foolish to maintain that by applying these criteria to the selection of a study setting we would be varying scale while holding all other factors constant. There are too many factors organizational, economic, political which the use of our criteria did not allow us to control. However, on issues relevant to the problem of the racial dichotomy we believe the choice of these criteria did highlight factors of scale or size. The first criteria--a city large enough to have a numerically significant Negro population--speaks for itself and needs no further elaboration here. Provision of a range of educational and welfare services not unlike the range found in the metropolis held the promise of allowing us to weight scalar factors as they effect the formal presentation of competence expectations in ghetto areas. The fact that our city was not to be a satellite or a suburb of a metropolitan city meant that in a manner not unlike the latter our city was not to be politically or economically dependent upon a

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<sup>3</sup> *Note:* At this writing the principal investigator and members of his staff are attempting to develop a method for sampling communities in a manner relevant to the problem under investigation. This is being done so that further research along the lines of the study we are reporting will proceed without some of the handicaps which confronted us in this endeavor.

single urban center external to it. Thus, on issues relevant to the racial dichotomy we would be able to trace scalar implications irrespective of the grossest (if not the more subtle) variations in the dependence/independence quotient.

It is obvious that our entire analysis cannot focus upon scalar variation alone. Nor should it. There are too many factors, themselves in need of exploration, which would have required control. Nevertheless, the most obvious difference between any two cities is *size*; and it is, therefore, a good variable to highlight or begin with even though we can not totally isolate its impact upon the issues and conditions we have examined.

Now as to the selection of the community itself....During the period in which preliminary thinking about this study was underway, the principal investigator was invited to meet with a number of curriculum innovators who were associated with the *Institute for Research On Exceptional Children* at the University of Illinois. In the course of these meetings, it became clear that there was common ground between the educators and the sociologist. The educators were interested in developing curriculum innovations for the pre-school disadvantaged and the sociologist was interested in understanding the social conditions which are the source of the disadvantage. It seemed natural to entertain the possibility of some form of quasi-collaboration. From the point of view of the principal investigator the major stumbling block to such an arrangement was the nature of the setting for the fieldwork of his study. The curriculum innovators were planning a program to be located on the campus of the University of Illinois. The children thus involved would come from the urban area in which the university is located. If there were to be a co-operative relationship between the educators and the sociologist, the logic of the situation would be to undertake the research in the urban context from which the children were going to be recruited and in which the educational research was going to take place. For the principal investigator on this study the question became one of evaluating this urban area on the basis of the criteria he was using to select his setting.

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<sup>4</sup> *Note:* All cities exist in dependent relationships with communities external to them. Here we are simply avoiding a situation in which the non-metropolitan city, unlike the metropolitan city, would be markedly dependent upon a single center external to it. For a discussion of the general state of dependency in which all cities exist see:

Ames Hawley, *Human Ecology: A Theory of Community Structure* (New York: The Ronald Press, 1950).

Superficially at least, the criteria seem to have been met remarkably well. The study site has a permanent population of approximately 96,000 people of whom approximately 8,200 or 9% are Negroes. The study site does have a range of educational and welfare services which compares favorably with those most frequently found in large metropolitan centers. Its schools, for example, have provided programs for the intellectually gifted as well as those who are intellectually handicapped. In fact, the schools in the area have for several years been noted for their special education programs. The education system also provides the standard range of college preparatory and pre-vocational fare. Welfare services also seem to approximate in their range the kinds of assistance one would expect to find in a metropolitan center. Citizens of this city can take their problems to the Department of Public Aid, the public health agency, the city hospital, several mental health clinics, a children and family services agency, the juvenile authority, a vocational rehabilitation center, and the public housing authority. Finally, the study site is located about 130 miles from the nearest metropolitan center. There is no evidence that it is politically dominated by that center. On the contrary, the style of political life is such that the site must be regarded as part of the downstate conservative Republican sphere while the metropolitan center has long been dominated by one of the strongest Democratic machines in the United States. Economically as well, there does not seem to be a special or satellite dependence upon the metropolitan center. There are several indicators of this situation. Hardly a heavy industry area, there are several plants representing such national companies as Humeo, Kraft, and Magnavox in the area. Aside from these industries the local economy seems more oriented toward providing services for the surrounding rich agricultural areas and the university in its midst than anything else. Moreover, at the time we began our research the site was even more isolated from the metropolitan center than distance or political and economic factors indicate. Transportation between the site and the center was--and still remains--less than ideal. The major highway linking the two areas was two-lane for more than half the distance. Trains running between the two cities operate on a limited schedule so that commuting is infrequent and is engaged in mostly by university personnel who have business at a campus located in the metropolitan center. An airline connects the site with the center but scheduling and fares discourage frequent commuting. Not one of the center's television stations broadcasts into the site area and only a few of its radio stations do so. Like its larger counterpart the site, in many ways, serves as a transportation and communications hub for the surrounding region, possessing as it does a commercial air link and a rail freight terminal as well as three television stations, two commercial and one university.

In sum, there seems to be little question that the proposed study site did meet the criteria we intended to use as the basis for choosing a community in which to do our research. The problems encountered with regard to the proposed site did not arise because of difficulties in meeting the criteria but because of other characteristics of the area. These will now be described.

The basic problem in accepting the site as suitable arose from the fact that although the area is constituted of *one* community it contains *two* distinct cities. The site area, a physically contiguous urban agglomeration, contains two administratively independent municipalities. So contiguous are these twin cities that unless one searches very hard for a sign demarcating the common boundary between them one would never know when he is crossing from one city to the other. The implications of this fact cannot be easily ignored particularly because of the nature of our research. Two municipalities means two city governments (a council-manager form and a mayor-alderman form), two independent school systems (each with its own school board and superintendent), two police departments, two fire departments, two park boards, library boards, planning and zoning authorities, etc.--not to mention two distinctive taxing authorities (one city has a higher property tax rate than the other because of differentials in the distribution of industry and commercial property). Aside from the fact that this duplication of governmental agencies would double the field work for the study, it made the site less representative than desirable. There are few communities with roughly 100,000 population which are organized into separate municipalities.

A second difficulty arose from the fact that the proposed study site is the home of a major university. That this is so would lead us to expect that certain conditions would exist in the community which would not ordinarily exist in communities of like size and other similar characteristics. The university has approximately 30,000 students in attendance, undergraduate and graduate (most from within the state, but a significant number from other states and from countries other than the United States)<sup>5</sup> and employs approximately 5,000 faculty most of whom have received their educations outside the area. Thus, unlike other communities of the same size the proposed study site, having a somewhat cosmopolitan population, would be expected to possess a degree of sophistication on racial matters not present in other communities. Moreover, the fact of the university's presence would be expected to have some impact upon the community's schools. It is nearly a truism that schools located in university communities are almost always involved in one university program or another. They often claim to be "better" schools because of this involvement.

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<sup>5</sup> Note: When the university is in session the population of the twin cities swells to about 125,000.

This remains to be seen; nevertheless, it is true that they are likely to be somewhat different because of the involvement. Finally, it might be expected that the university because of its importance to the local economy would be a significant political force in the twin cities, a fact which if true would further restrict the representativeness of the proposed site community.

What appeared to be an easy or simple approximation of the criteria for selection became a dilemma. On the one hand the criteria for selection could be met. On the other, there were some very real questions which could be raised about the representativeness of the site community when one considers the population of communities which could possibly meet the criteria for selection. How many of them contain two municipalities as well as a large university? If we decided that the complications obviated conforming with the criteria then collaboration would have been impossible. By this writing it is obvious that we decided otherwise for the following reasons: First, although two municipalities exist in the area, it is clear that in certain important ways *there is only one community*. Aside from high school rivalries and friendly competitiveness among businessmen, the people in the twin cities regard themselves as residents, or citizens, of the same *community*. A perusal of the two local newspapers and the local television programming would seem to indicate this. There are, to be sure, problems which are identified with one municipality or the other, but they constitute *community* news and affect *community* thinking. An example of this may be instructive. School problems in one municipality do not go unnoticed in the other. When the school system of one municipality put a plan into effect which was intended to break up its pattern of de-facto segregation, the appearance of this plan served as an effective goad to the other school system. Or, on a less august level, an interracial fight in the schools of one city reported in the local papers is not simply of interest to those who live in the municipality in which it occurred but to every parent, black and white, who has children in one or the other of the twin-city school systems. Opinion is not restricted to one or the other municipality but runs through both as a single community.

Beyond self-conception there are other factors which indicate the presence of a single community. There are several key agencies whose administration and operation make little or nothing of the municipal boundaries. They are the Department of Public Aid (a county agency), the Public Health District (a county agency), the Public Housing Authority (a county agency), Children and Family Services, the Mental Health Clinic, the three major hospitals (one of which is theoretically the city hospital of one of the two municipalities). The boards of these agencies as well as those of some others do not make decisions in terms

of a constituency and/or clientele of one municipality as opposed to the other. Decisions are made in terms of a constituency which cuts across the municipal boundaries. The situation in the area of the economy is much the same. The banks in the twin cities do not restrict themselves to clientele in the municipality in which they are located. Bank management conceives of the municipalities as more-or-less constituting a single economic unit. As far as can be determined regarding organized labor there are no duplications in union organization based upon the assumption that appreciably different working and wage conditions exist in the two municipalities. It should be noted that religious organization takes no cognizance of municipal boundaries. Churches for the most part draw their parishioners from throughout the area regardless of where they are located (except with regards to race) and the two ministerial associations--one quasi-liberal new church and the other fundamentalist conservative--are organized as though no boundaries existed to separate one city from the other. Finally, many adults although residents of one municipality spend most of their waking hours in the other simply because they work there.

Given these counter-factors (factors which run counter to the municipality split) we concluded that it was indeed possible to regard the study site as a single urban community for many purposes. However, we recognized the difficulties this assumption posed for data collection and analysis. Regarding data collection, in spite of the single community assumption, we still had to contend with duplication of government agencies. If our coverage of the formal competence agents was to be complete we would have to match our coverage to the agents. Given the duplication of some of these due to the municipal split, we would have to collect data on two agencies instead of one. This was a manpower problem, one which was simple enough to solve with our adequate resources. The problems associated with analysis, however, were more difficult. We wished to consider the site as *one* urban community. This we were able to do on certain levels. Using the logic-of-influence model explicated in section I, it was possible to regard the neighborhood, or black community, as a single sub-unit of a single larger community. For the most part municipal boundaries seemed to be ignored in the black community. As this was the case, we could also ignore the municipal boundaries when it came to selecting families for our study of familial competence milieus--all families belonged within the same sub-community. When the formal competence agents represented community-wide agencies they too posed no problem. But, proceeding on the one community assumption, how would we treat the competence agents and the agencies which duplicated each other because they had legal responsibility in only one segment or municipality of the community? Could we, for example, combine

our data on the school systems--or did we have to separate the two? In opting for the proposed study site, a tacit assumption was also made: to reserve the decision on how to treat the problem of duplication. If independent analysis of our data indicated great variation in the operations of, let us say, the two distinct school systems then we would have to report on them independently. If, on the other hand, analysis indicated insignificant variation, it would then seem permissible to create a repertorial fiction by combining the data from both as though only one agency--in this case the school system--existed in the community.

After reflecting on the university's role in the community we decided that while it could not be ignored, it was less a biasing factor than had first seemed to be the case. In informal conversations with both members of the faculty and members of the black community the principal investigator received the distinct impression that for the most part the university had, historically, done very little to effect the course of race relations within the community. Very few Negroes (local or otherwise) had attended the university and it was not until the late 1950's that the university took any action to prevent discrimination against black students in the rental of apartments and rooms by local townspeople. Most people agreed that the university had never applied organized pressure on the community in behalf of the residents of the black ghetto. Whatever the impact of the university upon local race relations, it was certainly indirect stemming as it did from the efforts of a minority of its faculty who individually and collectively did at times try to improve the circumstances of the local black man's life.<sup>6</sup>

That the university had not taken an aggressive role with regard to race relations in the community is consistent with its rather passive general demeanor toward the local community. Because

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<sup>6</sup> *Note:* It might be pointed out here that although the president of the university had gone on record in support of open housing, the university had not pushed for passage of open housing ordinances in the community. Restricted housing opportunities had led more than one prospective Negro faculty member to turn down an appointment. In 1967-1968 when other community groups began pressing for passage of such ordinances, university representatives did testify in support of them. However, there is no record of the university--as a corporate entity--taking initiative in proposing or working for such legislation.



of what it has apparently regarded as its political vulnerability in an area noted for its conservatism, the university (that is, the university administrators) has generally deferred to local mores--although there has of late been some challenge of them. Except on issues such as easements and zoning ordinances--which have an effect upon its space needs--the university has remained aloof from community issues.

There has undeniably been some university impact upon the schools. There is a history of research involvement in the local school systems. This has meant that the schools have been party to more innovation sooner than is likely to have been the case for similar communities which do not have a major university in their midst. University involvement, however, did not prevent de-facto segregation of elementary schools until the late 1960's. Although it is true that the university has assisted one of the cities in developing a desegregation plan, it is also true that it did not, as an entity, initiate or press for desegregation. It seems that the university's impact upon the local schools has been on the technical-professional level (curriculum innovation and teacher training) to the general exclusion of the policy level. In sum, while the university impact upon local education makes the schools somewhat unrepresentative for the class of urban community we are considering, there is no evidence that the schools are dominated by the university.

Every researcher knows that his efforts can never approach unity with the ideal in any given case with respect to design, procedures, and analysis. Because this is so, the researcher makes decisions after weighing the relative gains and losses effected by the selection of one course of action as opposed to another. The decision to accept the local community as the study site was made because in the judgment of the principal investigator more would be gained than lost by such a decision. Granted the site was less than perfect: evidence indicated that its deviation from what would have been ideal was not so great as to shake confidence in the generalizability of any findings for the class of urban community which was of interest. Moreover, there was a distinct advantage in the choice of the local community. Since the core of the study staff would have to be university people, it would have been impossible for the staff to be intensely involved in a community for the field period of three years if that community was any distance away from the university. The study could have been done, but not with the intensity of involvement we were able to effect because we were, ourselves, part of the community. Because this was the first of what we hope will be a series of studies, that intensity of involvement would seem to be a distinct advantage or, indeed, a requisite. Being thus involved this first time around will no doubt make it easier in later studies to be successful with less intensive attention. In beginning this research we had few guidelines. The next time around, on the basis of the experience we have

gained, we expect that we will have such guidelines and will be able to better structure our inquiry from the outset.

For all of these reasons a decision was made to accept the local community as the research site and to enter into a collaborative relationship with the curriculum developers in the *Institute for Research on Exceptional Children*.

#### The Method and Its Execution

The design of our study is relatively simple. Since our intention was to evaluate the operation of the specified sources of influence--i.e., societal agents, neighborhood cues, family milieu--upon the competence development of black children in the community, the focus of our investigation was upon each of the levels of influence. Ideally we should have chosen a sample of black youngsters in the community and attempted to assess the impact of these influences upon them as they constituted a synchronous network. To do so would have been prohibitive in terms of cost and would have required a degree of sophistication both with regard to field procedures and the community which at the outset of our research we did not possess. Instead we proceeded with a three-phase model of inquiry, each phase conforming to a specified source of influence--family, neighborhood, and societal agents. It should be emphasized, however, that in isolating each source of influence for investigation we did not lose sight of the fact that the logic of influence upon any individual had to be synchronous.

We spent approximately one year in the field focusing on each phase. Although it might have seemed logical to begin either with the outermost ring in the concentric circle, the *societal agents*, or the innermost ring, the *family milieu*, we did in fact begin by focusing upon the middle ring, the *neighborhood cues*. This was done for the following reasons: The strategy of beginning with the societal agents was rejected because had we done so we would have begun with little or no knowledge of the way they connected with the black community. This would have meant approaching the societal agents without a first-hand knowledge of the roles they played within the black community and the manner in which members of that community perceived them. We assumed that without such knowledge we might miss pursuing some important questions. Starting with the societal agents, therefore, was rejected as premature. Starting with the family milieu was rejected because we were unfamiliar with the local black community. We assumed that familiarity would be helpful in both selecting the families we wished to study and in formulating the kinds of questions we wished to pursue. We elected to proceed first with a focus upon neighborhood

cues precisely because such a focus provided us with a middle ground from which we hoped to derive information not only about the neighborhood milieu itself, for itself, but also information relevant to the other levels of influence in order to approach them with a level of local intelligence which would inform and enrich our inquiry into their impact. We decided that the order of inquiry should be *Phase I*, the neighborhood; *Phase II*, the family milieu (Once in the black community it was decided to follow the neighborhood phase with an inquiry into the family in the community.); *Phase III*, the societal competence agents.

The following material is presented to indicate in summary form the major facets of our approach in each phase. In each instance we shall begin with a description of field procedure and follow with a short discussion of the methods used in the analysis of our data.

### Phase I: The Neighborhood

In the middle 60's black communities have become wary of outsiders descending upon them to ask questions and prying into their lives. Increased self-awareness and bitterness toward the "white power structure" has made it difficult for social scientists to gain access to these communities, particularly if they happen to be white social scientists. Thus it was decided that we might have greater success in the field during *Phase I* if for the most part we were represented by people who were both black and known in the local community. We recruited three field representatives at the beginning of our inquiry, two men and one woman; we added a fourth, a woman, during the following summer. Each field representative was half-time on the study while they each had a distinct identity in the community. One man was a clerk in a liquor store which was frequented by working and welfare class men who were habitual drinkers. We thought that his occupation placed him in a strategic location giving him *natural* access to a group of men who would otherwise be resistant to taking part in the study. The other man was a skilled civilian technician at a nearby air base. When he first considered joining us he was concerned that he might be "too middle class" to do the job. We asked him to join our staff in spite of the fact that he was indeed "middle class" because he was known and respected by young people in the community with whom he had had contact as a part-time youth worker. We assumed--and we were not disappointed in that assumption--that he might be particularly valuable as a field representative because he seemed to have a wide range of contacts within the black community. The first woman to join our staff was a matronly mother in her middle forties. She had a reputation as a kind and gentle person. We believed that she was well-known enough (she had been instrumental in organizing a community school) so that together with

her very personable qualities she would be accepted by those with whom she had contact in the black community. This was true only in part. Perhaps because they saw her as a mother-type teenage girls tended to be reticent in her presence. For this reason we hired our final field representative during the summer months of our first field period. The woman we hired was a young trained social worker whom many of the teenage girls in the community had come to know and trust. True to our expectations she was particularly effective gathering relevant data among them.

Only one of the field representatives, the social worker, had any training in social science or social research. Care was therefore taken in preparing them each for a dual task. First they were asked to observe the behaviors of people in the community with whom they were familiar. Second, they were asked to engage informants in minimally structured interviews.

The observations were organized and recorded along the following lines:

- 1) the field representatives were requested to observe in environments with which they were familiar.
- 2) they were asked to record behaviors which they regarded as being typical for that environment.

Observation is a difficult art when it is a conscious act. We found that our field representatives were uncomfortable in the role and that their observations seemed restricted and without very much that was of value. To remedy this difficulty a different procedure was adopted. On the assumption that we are all better observers than we think we are--that is, as actors in common social situations we assimilate a great amount of data which we are not quite conscious of--the principal investigator instituted regular interviews with his field representatives in order to elicit relevant information which they possessed by virtue of the natural routines of their daily lives but which they did not know they possessed. Thus the field representatives themselves became informants for the study.

Interviewing informants was a complex procedure which required collaboration between the principal investigator and each of the field representatives. The procedure may be described as follows: The principal investigator, by his description of social and demographic characteristics, indicated to the field representative the kinds of individuals with whom he desired interview contacts be made. No set quota was placed on any type of individual. The field representative armed with such a description

was then asked to contact people approximating that description whom they regarded as being particularly informative.

That the possibility of bias enters into such a procedure is undeniable. On the other hand, the procedure did maximize the flow of information. Let us assume for a moment that some type of randomized procedure was used to select informants. Whatever the gains in thus being able to estimate the effects of sampling error, we can assume that they might easily have been obliterated, for at least some of those chosen in such a procedure would likely have been relatively ignorant or otherwise uncommunicative about behavior in the community. It must be remembered that we were selecting informants, not *respondents*. We thus wished to select people about whom we had some assurance that they were knowledgeable concerning varying aspects of the black community. This "assurance" was provided by the field representative who might be regarded as something of an expert on people in the community.

Each field representative worked from an interview outline provided by the principal investigator. The outline was minimal and was constituted of a series of guides to areas of behavior and attitudes in the community which might be explored in a relatively informal conversation. Before going into the field each member of the staff rehearsed the interview procedure with the principal investigator. Because the principal investigator had prior experience in ghetto communities he was able to role-play in simulation of conversation situations. A check was run on the progress of the interviews. The study director systematically listened to the tape recordings of the conversations, to one of every three tapes turned in. Such listening allowed him to make in-progress corrections upon the conversation procedures of each of the field representatives. By doing this he could point to errors or oversights in the actual procedure so that the field representative would be aware of them in future interviews.

A word should be said about the nature of the *conversational interview*. In order to play down the interview aspects of such encounters, the field representatives were instructed to hold the conversations in what might be termed *natural settings*, i.e., places familiar to the informants. Conversations generally took place in the homes of informants, in the homes of the field representatives, in a local community center, and even in the liquor store where one of the field representatives worked. Most of the interviews were taken on a one-to-one basis, the informant and the field representative. There were some instances, particularly where adolescents were involved, when the interview took the form of a group discussion. In most of the interview situations the field representative used no notes, having committed the basic outline to memory. In one instance, however, the field representative had difficulty working without a written

outline. After a concerted effort to improve the work of this person a decision was made to allow the use of a written outline.<sup>7</sup>

The basic intent of the conversational approach was to generate discussion in a particular substantive area--adult recreation, for example--and then let the informant take the discussion in any direction he wished in order to elicit as much depth as was possible. Of course the presence of a tape recorder in plain view of the informant was a constant reminder that this was no ordinary conversation. The field representative did work to overcome the inhibitions which may have restrained some informants. But we believed that the use of the tape recorder would provide us with a complete record of the conversation, would give us data which might seem unimportant in the situation but which might later provide us with clues to phenomena of unanticipated significance, and would also give the study director access to the interview situation so that he might progressively correct procedure. Again as in other situations, a choice of approach was made which, although less than perfect, recognized that much was to be gained by the use of tape recorders.

Analyzing the data for *Phase I* has been a long and arduous task. At this writing some analysis remains to be completed. The analysis of data proceeded in three stages--1) *classification*, 2) *profiling*, 3) *synthesis*. Our intention was to develop a systematic ethnography of the neighborhood or black community. When accomplished we would have a depiction of the community which would provide us with a sense of the competence cues that regularly emanated from it and which, no doubt, were having an effect upon youngsters who were consistently exposed to them. The first step in the analysis of the collected material was to bring some order to the data. This was accomplished by reading each transcript and by classifying the material therein. Each informant was classified by age, sex, marital status, and employment status. The material contained in each transcript was in turn classified according to the *activity area* for which it

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<sup>7</sup> *Note:* The possibility of replacing this person was considered; it was rejected for the following reasons:

- 1) Selecting and retraining another individual would have been too time consuming.
- 2) The person in question had worked assiduously at making contacts for the study in the community. We felt that there would have been greater loss as a result of dismissal than if we adjusted the interview procedure in this one case.

was relevant. The *activity areas* are listed as follows:

Education

Housing

Recreation

- A. Social Functions
- B. Availability and quality of formal facilities
- C. Informal meeting places
- D. Activities

Police and Courts

Private Services

- A. Treatment at retail outlets
- B. Accessibility of retail outlets

Welfare Services

- A. Accessibility
- B. Treatment
- C. Attitudes toward

Health Services

- A. Accessibility
- B. Treatment

Legal Services

- A. Accessibility
- B. Treatment

Vice

- A. Prostitution
- B. Gambling
- C. Illicit Liquor Sales

Domestic Relations

- A. Husband-Wife
- B. Parents-Children
- C. Buying habits
- D. Household cleanliness

Occupation

- A. Unemployment
- B. Types of Jobs available
- C. Labor organization participation

Crime

- A. Adult
- B. Idiosyncratic juvenile offenses
- C. Juvenile gangs

Local Politics

- A. Community leadership
- B. Attitudes towards white power
- C. Political participation
- D. Political issues of concern

Philosophy of Life

- A. Feelings about relative social position
- B. General attitudes toward whites

## Segregation and Integration

### Sexual Behavior

- A. Adolescent sex practices
- B. Adult pre-marital sex practices
- C. Adult extra-marital sex practices

Miscellaneous--inclusive of materials on religious practice

All of these categories are 1) classifications directly relevant to the generation of competence cues (re: the scheme explicated in section I), 2) classifications relevant to the social context in which these cues are generated, or 3) classifications relevant to community links with formal community agencies, i.e., schools, welfare, courts, etc., with which the formal competence agents are associated.

Upon completion of the classification we had a distribution of data in activity areas for every group of informants (as classified on the basis of age, sex, marital status, economic or occupational status). In the next, or profiling stage, a summary statement, or profile of the data in all categories for each group of informants was prepared. This constituted a distillation of the best descriptive material collected from the groups of informants for each of the activity areas. The final, or synthesis stage, has involved drawing from the profiles a description of life and conditions in the black community with special reference to the question of the kinds of competence cues which are generated in this context. This last stage was undertaken solely by the principal investigator. There is nothing mechanical about what has been done. At this stage no formula for proceeding in this operation can be given which is transferable from this situation to others which are similar. The synthesis has depended upon the application of a *trained sociological imagination* to a body of organized material. The synthesis is thus an emergent--a product of the sociologist's immersion in his empirical materials. The principal investigator knows of no superior method by which to ferret out the *social logics* operative in *real situations*. It is the judgment of this sociologist at least, that the essence of good sociology is the practice of good sociologists; that the best guarantee of accuracy of insight is the attention of the best analytic device in sociology--the well-trained sociologist. If the researcher has been witless, if he has been without imagination, then the synthesis will be found wanting. If, on the other hand, he has been keen, then the synthesis will strike at the important issues and bring the audience to a greater understanding of what is really there and of the logic of its organization and operation.

Before closing this discussion of *Phase I* there are two



issues which bear commenting upon. One is relatively minor and technical; the other is basic. Regarding the former, there may be some question as to why informants were classified by such empirical criteria as age, sex, marital, and occupational status. Why, for example, was not some form of explicit socio-economic class scheme used to organize the classification of the informants? In answer we would argue that such a scheme to merely classify the informants would have taken more effort than such a classification would have been worth. In this specific instance in our judgment it seemed that classification by easily accessible data was enough to establish the social location of our informants. Moreover, imposing before the fact any class formulation might very well do violence to actual life style differences as they exist in this particular black community. Rather than become involved in the methodological issues of social class analysis, we by-passed it although we are well aware that our groupings do reflect life-style differences which might be described in class terms.

The more basic issue may be articulated as follows: If our purpose is to describe the social logics operating in real situations, can these situations and their associated logics be determined from essentially repertorial data. Observations notwithstanding, most of the data collected and analyzed in *Phase I* was data which defined the situation from the perspective of people living within the black community. It might be argued that other perspectives gleaned from interviews with non-residents (i.e., social workers, policemen, public health nurses, etc.) should have been collected during this phase to serve as a corrective on the residents' perspective. Thus it might be said that the *reality* is not necessarily what the residents themselves perceived it to be. There is substantial validity to such an argument provided we do not distinguish between *objective* and *subjective* reality. By objective reality we mean that which would appear as the *consensual definition of a situation* arrived at, let us say, by a group of disinterested observers and analysts. Assuming some imperfection or deviation from what actually is, even in this depiction we would argue that since the observers are disinterested--having no axe to grind--their consensus would come close over the long run to defining the situation

as it actually is.<sup>8</sup> *Subjective reality*, on the other hand, represents the definition of a situation which the participants themselves make. The definitions can be as different as the number of perspectives the actors bring to the situation. Thus the subjective reality of the black community depends upon whether you are a resident or a white policeman assigned to patrol it. If we failed to distinguish between the two realities as social facts then on the basis of the data we have collected we would be unable to assert that we had captured the reality which we seek (unless of course we collected data from other sources as a corrective on the community data). However, since we make the distinction we can in turn claim that our data allows us to assess the subjective reality (or the way things are collectively defined) of the black community as organized and perceived by the black residents themselves. Moreover since we are concerned with the competence cues emanating from this community it is the *subjective reality* which is important. Whether or not this reality can be objectified (i.e., whether or not disinterested observers of the community would perceive it in the same way) is, in the context of the problem we have set for ourselves, *irrelevant*, for it is the subjective reality--the consensus of those involved--which has impact upon competence development and behavior in general.

#### Phase II: The Family Milieu

In studying family competence milieus in the black community we adopted what might be called the *blind strategy*. In order to understand the selection of this strategy and its execution, we must first refer back to the *logic-of-influence* model (see Section I) which informs our research. A basic assumption of

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<sup>8</sup> *Note:* It is assumed that the observers are competent to arrive at such a consensus. Also the possibility should not be overlooked that even disinterest may inject a systematic bias into the observation and analysis rendering the consensus incorrect. Finally, it might be argued that there is no such thing as a completely disinterested observer of social affairs. If this were the case there would be no real way of "objectifying reality"; the presumed disinterest would merely be another perspective on what was going on.

It is interesting to note that presumed disinterest was among those qualities which led to the commissioning of Gunnar Myrdal, a Swedish political economist, to undertake the massive study of the Negro in American society which eventuated in *The American Dilemma*.

that model is that the three sources of influence--societal agents, neighborhood cues, and familial milieu--operate upon the individual child with different intensities; that the impact of the societal agents is least intense and the impact of the family milieu is most intense with the neighborhood cues occupying the middle position relative to the others. The differential intensity is an important factor because it implies that even under seemingly adverse circumstances where, for example, the neighborhood cues do not enhance the possibility of competence maximization a familial milieu which is competence enhancing might, hopefully in coalition with the societal agents, compensate for the neighborhood impediment. Conversely, it is an open question as to whether competence enhancing cues in the neighborhood, again hopefully in coalition with the societal agents, can compensate for a familial milieu which impedes the maximization of competence. In other words the model assigns to the family the probability of greatest impact on the child's chances for maximizing his competence potential. Just how much weight--less than, equal to, or greater than the combination of the two other sources of influence--is left undetermined. It was thus one of the goals of the family phase of the study to evaluate familial impact relative to the other sources of influence. The questions to which we addressed ourselves were: Does the family outweigh the other sources? If so, by what arrangements does it do so? We think these questions are crucial to a rational determination of intervention strategies. If family milieu does appear to outweigh a combination of the other sources, then intervention efforts might well be focused upon that institution. However, if family milieu, whatever its intensity of impact, can be compensated for, then the intervention efforts can be focused at the other levels--a situation which given the nature of the family institution bodes more optimistically for success. It is of course impossible to offer a definitive answer to these questions. Nevertheless, it was necessary to confront them in the context of our study. With this as background we opted for the *blind strategy* which will now be explicated.

On the basis of preliminary examination of *Phase I* data we believed it was safe to assume that full analysis of the data would indicate that overall the community presented cues which impeded the development of competence. Nevertheless during the course of our first year's investigation we had come into contact with individuals in the community who were highly competent, including some who had grown up in this black community. Thus, we could conclude that in some way these individuals had been able to manage (or have managed for them) their neighborhood environment so that its competence impeding qualities had little impact upon them. This phenomenon reinforced the principal investigator's concern for the implications of differential intensities of the sources of influence. While at that point

we knew little if anything about the impact of societal agents or indeed the styles in which they addressed themselves to the black community, the fact that some people seemed to be able to surmount the neighborhood obstacles to competence maximization seemed to indicate that their family milieus (given the assumptions in the logic-of-influence model), possibly in consort with the efforts of societal agents, might have been competence enhancing enough to enable the deleterious neighborhood impact to be neutralized

In order to evaluate the impact of family milieu while at the same time allowing a continued focus upon the overall problem of the family milieu in the logic-of-influence model, we decided upon a typological sampling procedure focusing upon individuals with no prior knowledge of their family backgrounds. We decided that we would typologize the range of competence outcomes in individuals from those who were quite unsuccessful to those who were quite successful (or competent) with a marginal group intermediate. We then selected a sample of individuals in each group and launched into a retrospective analysis of the competence milieus in their families during the period they were growing up. Theoretically by holding neighborhood cues constant we hoped to find some regularities in the familial backgrounds of those whose competence outcomes were similar. If the family milieu had enough impact to outweigh the neighborhood impact--either with or without the help of societal agents--this should be indicated by similarities in the backgrounds of the competent individuals which in turn would differ from the similarities we would expect to find among the marginals and the non- or incompetents. Such an evaluation as this could proceed while at the same time we examined the network of influence as a whole.

Ideally we should have typologized the competence outcomes of adults in the community (since it is adult competence or the absence of it which is of interest to us). However, doing that would have posed some logistical problems not easily surmountable. In the first place, while by its nature competence default finds its way into agency records which can be used to select a sample, it would be difficult except impressionistically to distinguish between the marginals and the competents without intensive study of their biographies. Thus, unless we were willing to trust to impression we would have to engage in an extensive study of adult individuals even before they and their families were or were not included in the study sample. Secondly, a typology involving adults might have turned up a large number who fit the criteria for one type or another but who would have had to be discarded because their families' orientation were inaccessible for one reason or another. If this were indeed the case, the only way to keep such individuals in the sample would have been to rely almost entirely upon their recall of their respective family milieus--a procedure which would have left much to be

desired in the way of reliability and validity. In the face of such difficulties the study director decided that proceeding along these lines would have been too costly and time consuming in the context of the present study. Thus, an alternative approach was chosen.

Instead of typologizing the behavior of adults, it was decided that this could be done more easily with adolescents. Where adolescents are concerned there are school records which can be used across the board; even the successful youngster has a dossier in our school system (a happy occurrence for social scientists but perhaps not so happy from the point of view of the students!). By using the school rolls, by knowing the addresses which meant residence in the black community, and by operating with a pre-prepared list of youngsters, we were able to begin typologizing the behavior of black adolescents still in school.

Before continuing with this description of *Phase II* procedures, some remarks must be made in defense of our decision to typologize the behavior of adolescents. Proceeding with a developmental assumption, not unlike that in the work of Erik Erikson, that it is in adolescence when the individual struggles with the coming demands of adulthood (Erikson, 1950), we argue that difficulty or its absence during adolescence is a good predictor of future competence or the lack of it. Thus an adolescent who has major difficulty achieving in school is likely to have difficulty achieving as an adult; the absence of literacy may, for example, prevent his access to employment which is reasonably remunerative. An adolescent having interpersonal difficulties is likely to become an adult who will have them and is a prime candidate for default in those familial roles which necessitate interpersonal competence. We assure with some confidence that our typology of adolescent behavior is a fairly accurate precursor of a typology of adult behavior. We, therefore, used adolescents in the stead of adults.

The use of school records led us to those adolescents who were still in school. In order that we might extend our typology beyond this limitation, we made use of other records--those of the local juvenile authority and the local Department of Public Aid. Moreover, use of these records afforded us a cross-check on the backgrounds of those individuals already checked through the records of the school system. It should be noted that extending

preliminary examination to records of these other agencies did not insure that all relevant individuals would be covered. Perhaps there were some on the unsuccessful end of the scale who had not come to the attention of one or another of these agencies. That limitation upon our procedure was recognized but we decided, given restrictions of time and resources, to ignore this possibility for the procedure being used a typological sampling frame could be developed.<sup>9</sup>

Using the records of all these agencies allowed us to develop an extensive list of adolescents in the black community whose current behavior had been classified as 1) *tending towards future competence*; 2) *marginal* or a mixed profile of competent tendencies in one area with tendencies toward default in another; or 3) *tending towards future competence default*. In some cases there were sibling variations; scores in these cases were combined and averaged and the adolescents were assigned to one type or another according to their average competence score (an arbitrary procedure to be sure but an unavoidable one given the logic of selection process whereby the family is selected according to the characteristics of the adolescents). It should be noted that both the school records and the records of the other agencies gave us some demographic data on the nature of the household of each youngster classified. Thus before we selected families for interviews we generally had before us such information as the following: 1) whether or not the household was characterized by an intact family, 2) the ages of members of the household (We found, however, that everyone in the household was not always noted in the records.), and 3) whether or not the household received any form of welfare (financial) assistance and the reasons for that assistance.

Using estimates of the time it would take to complete the interviews and the available resources for interviewing, the principal investigator decided to divide a sample of thirty

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<sup>9</sup> *Note:* Our sample when drawn was not representative in a statistical sense. It was by no means a probability sample. However, our intention in this part of the investigation was not to use statistical estimates for population parameters. Rather we were concerned with looking at the interplay of factors in the families of those classified differently in the typology. Thus, we may argue that the sample was typologically representative--instead of statistically representative--and that this quality was sufficient for our purposes.

families into three groups of ten--each group representing the families of adolescents in one classification as opposed to the others. From the sampling list already classified, the principal investigator purposefully selected the families to be included among the thirty. He chose in such a manner so that in each group there was a range of ages among the adolescents whose behavior was classified and also some variation in household or family structure. It should also be noted that in order to reconstruct the competence milieu of the household an attempt was made to interview everyone in the household thirteen years or over, inclusive of the classified adolescent. (Thirteen was used as a cut-off because of the difficulty in getting reliable material from younger children in interview settings.)

All told ninety-four persons in the thirty families were extensively interviewed.<sup>10</sup> Whenever possible an entire household was interviewed at the same time in order to mitigate data contamination which could have arisen when a previously interviewed member of a household discussed the content of the interview with a member of the household who had not yet been interviewed. Each interview was tape recorded and whenever possible the interviews took place in the project rooms at the university. This was done to insure as much privacy as possible. The interviews were of a *semi-structured* type. Each interviewer was given an interview outline containing questions covering the minimum number of areas in which materials were to be collected. The interviewers were given some leeway in wording questions and were encouraged to meander into areas which were not on the outline but which seemed important to the individuals they were interviewing. The interviews were intended to elicit materials--life history and otherwise--which could be used to reconstruct the competence milieu in the household of the adolescent. Besides ordinary pre-testing, the interviewers, under the guidance of the field supervisor, spent a considerable period of time rehearsing the interview procedure. Finally, as in *Phase I* the tape recording of interviews allowed correction and improvement once interviewing began. The field supervisor spot-checked tapes and made the necessary corrections with the interviewers.

Reconstruction of familial competence milieus has proven to be a long and difficult process. At this writing the reconstructions are not yet complete. Part of the time delay has been a function of trial and error attempts to code and organize the data from the transcripts. A full eight months was given to

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<sup>10</sup> *Note:* The interviews were carried out by a staff of eight interviewers, five black and three white, under the direct supervision of Mrs. Audrey McNattin, field supervisor.

this enterprise before a satisfactory albeit time-consuming approach was devised. Early efforts focused on developing a scheme standardized enough so that assistants on the project could themselves do the reconstructions. Neither the assistants nor the principal investigator found any of these attempts to be reasonably productive. After many trials, a decision was made to have the assistants work on a preliminary screening of the transcripts whereby irrelevant material was edited and the most relevant materials highlighted. The actual reconstructions were then left to the principal investigator, and as in the case of the *Phase I* synthesis, they are the products of an application of a disciplined sociological imagination. The process of reconstructing is a long and painstaking one.

### Phase III: The Societal Agents.

In *Phase III* two empirical quests dominated our activity. In the first we were interested in the style and activities of those who took the role of societal agents of competence, particularly those who did their work in the black community. With regard to these people we had a particular interest in 1) the manner in which they presented their "competence message" in the black community, 2) the assumptions they made about or the preconceptions they had of the people whom they regarded as their clients, 3) the organizational contexts of their efforts.

Our second area of inquiry was more broadly based. We assumed that in order to get some grasp of the general context in which Negroes live, we needed to observe the operations of those white-dominated organizations and agencies which, on the basis of our previous years of inquiry in the black community, seemed to have the greatest impact on the lives of people living within it. Thus, for a period of one year we engaged in systematic observation of a number of these local agencies and organizations.

The following is a description of our inquiry for both aspects of *Phase III*. Let us first discuss the societal agents. We knew, of course, that we would have to focus on the schools as a major agency of competence in the community. Beyond the schools, however, we had only impressions as to which agencies were particularly important in the black community. (These impressions were derived primarily from our previous work in the black community.) We decided to test these impressions in a more systematic manner. A panel of four social workers with wide experience in the community was asked to rank community agencies according to their perception of the involvement of these agencies in the black community. A ranking of mean scores was used to pick the five most frequently involved agencies other



than the schools. They were 1) the Department of Public Aid, 2) the Health Department, 3) the Salvation Army, 4) the Public Housing Authority, and 5) the Township Supervisors (four elected officials who have at their disposal funds for emergency relief). Each of these agencies was contacted, the study was explained,<sup>11</sup> and we requested co-operation in setting up interviews with agency personnel. Co-operation was forthcoming with all but one, the Township Supervisors.<sup>12</sup> Our interviewers using minimally structured outlines set out to interview at all levels within each agency. Wherever possible these were tape-recorded. We did find, however, that when interviewing administrators in these agencies it was best not to use the tape recorder. Apparently many of those who held such positions felt more at ease when talking about sensitive subjects if the recording device was not being used. Each interview was intended to elicit the following information from the perspective of an individual taking a specific role within the agency: 1) the general philosophy of the agency, 2) the agency's methods of putting the philosophy into operation, 3) sources of resistance to the agency's work, 4) specific efforts in the black community, 5) aspects of the agency program needing change from the perspective of those who were actually involved in carrying out agency objectives--social workers, nurses, etc., 6) the nature of their experience in the black community.

Studying the schools involved a special effort, the history of which ought to be in the record. Because most of the black children in the community attended school in one of the cities as opposed to the other and because most of the problems having to do with race seemed to exist in that system<sup>13</sup> it was decided to focus our research on that school system. However, at the time we began our field work for *Phase III* two factors complicated our task in this school system. First, the system was under pressure to present a satisfactory desegregation plan which at

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<sup>11</sup> *Note:* Throughout the course of the study we always took pains to explain the nature of our work to those whose assistance we enlisted in interviews or otherwise.

<sup>12</sup> *Note:* We were eventually able to complete our interviews with them.

<sup>13</sup> *Note:* This is not to imply that the other system had no race problems. However, a set of fortuitous circumstances in the part of the community served by that system tended to mitigate its severity. These factors included a high proportion of faculty families, a small black population, and significant representation of faculty on the local school board.

the same time would not generate too much backlash from the whites in its constituency. It had devised a plan which neither the whites nor the blacks found completely satisfactory, a plan in which the elementary schools were desegregated but which involved the involuntary bussing of the black children only.<sup>14</sup> Thus, at the time we wished to do our field work in the schools, the system was trying to work its way out of a controversy of great intensity.

Besides the controversy over desegregation the system was undergoing a major administrative transition. At the time we wished to enter the schools a new superintendent was becoming acclimated to a system that had been dominated for years by a strong personality who had retired the year before. As is common in bureaucracies when there is a change at the top there were also changes being initiated throughout the administrative structure of the system. Some of these changes, of course, upset previously well-entrenched persons with the resulting dissatisfaction of those affected. Thus not only was the school system embroiled in a community controversy but it was also under strain as the result of a burgeoning internal conflict. The reader will agree that this was hardly a propitious state of affairs for the success of our field efforts. Thus, we decided to delay approaching the schools directly for as long as possible, hoping that the situation would cool down somewhat. By March of 1968 (with the situation not much better and perhaps a little worse with regard to the internal issue) we decided that we could wait no longer. Contact was made through the superintendent who, surprisingly, agreed to be interviewed and to allow interviewing of professional staff on all levels providing they gave their assent. There was a single proviso: the superintendent believed that because of

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<sup>14</sup> Note: The plan was rather complex and involved the collaboration of the university which in this case acted as a *deus ex machine* for the school system. The university undertook to run a lab school in a previously all-black elementary school. This had the effect of drawing a voluntary white group into that school while the majority of the black students formerly in attendance there were dispersed throughout the other elementary schools in the system.

<sup>15</sup> Note: It was a very interesting state of affairs as far as our research was concerned. We could be entering the system when it was under pressure, in one instance at least because of the community's racial problems. Substantively we could not ask for a better situation. However, the problems posed for the execution of the research by such conditions were major indeed.

the touchiness of the situation in the schools it would be best if all the interviews were taken by a single researcher, namely the principal investigator. Given the necessity of getting these interviews and the urgency imposed by the approaching end of the school year, it was decided to proceed under this constraint. Thus, from sometime in March to early in July when the last interview with a teacher was taken, the principal investigator spent a good part of his time in and around the environs of the school system. Interviews were taken with staff members at every level of the school system. Included among these were interviews with the superintendent of schools; the assistant superintendents for instruction and business; the director of the special education program; the principals of all secondary schools, junior and senior high schools except one (the principal of one high school made an appointment to be interviewed in his own office but for no accountable reason failed to keep the appointment). Interviews were also held with the principals of those elementary schools which either already had a considerably large black student body or which because of the plan to desegregate would soon have Negro pupils in spite of vocal opposition of white parents who already had children in the school; and finally, with a sample of teachers and counselors representing every academic, vocational, and most of the remedial programs in the system. Interviews taken in the school system were essentially similar to those taken in the other agencies except for an additional focus on the controversy over desegregation and the preparations being made to deal with the pedagogical and policy problems attendant to it.

Aside from the agencies already noted, two others which had considerable contact with the ghetto youth were studied. These two--the juvenile office of the police department in the city where most of the blacks live and the county probation office--were not included in the first go-round because they are essentially *control* agencies rather than ameliorative agencies, even though members of their staffs see their jobs as encompassing both functions. Because of their extensive contact with ghetto adolescents we later decided to include them in the study. Interviewing with staff members of these agencies was carried out in the same manner and with the same intent as the interviewing in the primarily ameliorative agencies.

Since the *Phase III* field period was not concluded until August, 1968, the analysis of the data is at this writing still underway. We are trying in this analysis to understand how these agencies face onto the black communities, what they say they are trying to do in that community, what they are actually doing, and the reasons--organizational or otherwise--for those deviations between professed intentions and actual outputs which do exist. In sum we are primarily interested in the manner in which these

competence agents accomplish their tasks with regard to the black youth of the community. It should be noted that we are also interested in evaluating the intentions which guide the efforts of these agencies, for there exists the very real possibility that these intentions in and of themselves are inappropriate to the obliteration of impediments to competence development.

In order to accomplish the tasks just outlined we are analyzing each agency as a discrete entity probing the issues in terms of the responses we have accrued from personnel differentially placed in them. The final step in this analysis is to summarize the array of competence agents facing on the black community and to evaluate the total of intentions and outputs which affect the lives of those who are growing up in that community.

The more general study of white-dominated organizations and agencies affecting the black community has proceeded as follows: On the basis of a consensus among those who had been involved with the study for a period of time a list of organizations or public agencies having great impact upon the local black community was put together. The meetings of these organizations or agencies became the focus of intensive observation throughout the course of the *Phase III* field period. Those which, on the basis of early observations, seemed to be very important received sustained coverage. The others were observed only when there seemed to be an issue of particular relevance to the black community which arose for consideration by them. The following is a list of those receiving sustained coverage:

- 1) County Board of Supervisors
- 2) The City Council of City #I
- 3) The City Council of City #II
- 4) The Board of Education of City #I
- 5) The Board of Education of City #II
- 6) The Park District of City #II

The following is a list of those receiving focused coverage:

- 1) The Economic Opportunity Council (OEO affiliate)
- 2) The Model Community Co-Ordinating Council
- 3) The League of Women Voters
- 4) The Human Relations Commission of City #I
- 5) The Urban Renewal Authority of City #I
- 6) The Park District of City #I
- 7) Churches in the white community

At each meeting of these bodies where the study staff was involved,

two members of the staff were assigned as observers. Observers were instructed to report verbatim accounts of what transpired as nearly as possible. This was done so that observer judgments, which of course cannot be standardized, would be minimized as well as their readings of the tone of exchange or the emotive content of the meetings. Two observers were assigned on the assumption that their reports would compliment each other by covering some of the repertorial gaps of each and by cancelling or confirming judgments on emotive content. Where the same emotive content was reported in both, the reading was accepted as accurate; where only one report contained a judgment on emotive content, the reading was questioned; where each report contained opposite judgments, the readings were considered to have cancelled each other out.

What residents regarded as the unfair administration of justice when Negroes were involved in court cases we learned was a major grievance in the black community. Since Negroes had more than their share of contact with the courts, we decided to do sustained observation in them. Observing in the courts at a time when they were under increasing fire in the community constituted a ticklish situation. The appearance of our observers time after time in the courtroom was sure to be recognized (as indeed it was), and we did not wish to become embroiled in the controversy surrounding the courts (at least not at the time we were actually in the field). Graduate students are regarded with suspicion and some hostility in the local community; therefore, we decided that graduate assistants would be poor choices for court observers. Instead we chose local women on the assumption that as women and local residents they would be less threatening to court personnel. This assumption proved correct. After appearing in court a few times, the magistrates, judges, and attorneys invariably queried our observers as to their business there. The observers were instructed to explain that they were working for a professor at the university, that they were doing a study on the kinds of contacts people have with different agencies in the community. If questioned further, they were instructed to explain their work in greater detail. This explanation sufficed in each case and the observers were not at all harassed during the eight months of field work in the courts. On the contrary, they were invited to coffee with the judges and other personnel who were quite free in their commentary on court practices. Such contacts made possible a number of formal interviews taken with judges and others at the close of the field period.

The procedure in the courts was similar to that used in observations of other public bodies. The observers were instructed to take as near verbatim accounts as possible of court proceedings, to exercise as little editorial judgment as possible. From these accounts we hoped to piece together as accurate an account

as possible of the nature of the black man's experience in the courts of the community.

Supplementary to observations of the organizations and the courts we kept notebooks of clippings from the two local newspapers. In fact the notebooks contained any racially relevant local story which appeared during the last two years of the study's field period.

From all of this collected data we hoped to reconstruct the nature and quality of the black man's contact with the white man's institutions in the community we chose for our study site. In other words, we hoped to tease out the *social logics* which bound black and white together in what might be termed *assymetric symbiosis*.

It is of course true that doing so extends the inquiry somewhat beyond the *logic of influence* model. However, as we have noted earlier, the model was not intended to restrict the natural serendipity of the research process. We undertook this extension because we came to believe that it was necessary to understand the symbiosis occurring between the relatively powerful in the community (the white dominated organizations) and the relatively powerless in the community (most of the black residents). We came to feel the necessity of this understanding because we realized that educational and welfare innovations in the context of any given community must ultimately become political issues. Whatever the laboratory viability of an innovation, its community viability is not thereby assured. Moreover, its community viability (or lack of it) will be largely beyond the control of the professionals and in the hands of those who, usually without expertise in these areas, make decisions which can either enhance or destroy the possibilities of success: those who sit on policy boards in the community and those who--formally or informally--influence them.

It was for this reason, too, that we embarked upon the final data-gathering task in the study. We had observed the public proceedings of formal bodies, but it was apparent to us as well as to members of the black community that public decisions were often the products of private influence (this became apparent to us, in part because of our sustained observations of public proceedings). Thus, if an understanding was to be derived of how decisions affecting the black community *really* came to pass, it was apparent that we would have to reach the private influentials (perhaps not so private, but influentials nevertheless). In effect, this task was one of studying the white power structure of the community, albeit with specific reference to the issues connected with race and poverty.

There is a vast literature on community power structure and decision making. Both political scientists and sociologists have considered these related problems as important areas to be investigated. In brief summation this literature presents us with 1) two basic alternative formulations on the nature of community power structure in American society and 2) serious methodological doubts about the provability of one thesis as opposed to the other. The first alternative usually associated with sociological studies in this area holds that power distributions in communities are monolithic in nature (Hunter, 1953); that public decisions on almost any matter are influenced by a relatively small coterie of men at the top--usually businessmen holding no formal political office. The second alternative usually associated with the efforts of the political scientists holds that the typical power distribution in American communities is pluralistic (Dahl, 1961); that there are *hierarchies* of power associated with distinct community issues--zoning, welfare, education, etc.--rather than a single structure controlled by an elite with generalized influence.

Two methodological approaches have been used in studies of community and each has been closely associated with one of the two alternative theses (so much so that some have argued that diverse findings in conformity with each of the alternatives are the function of the method used to elicit them). The *reputational* approach has generally used a panel of informed people who are questioned as to who the powers in the community are. Those who are consistently reputed to be powerful are then recognized as the elite with generalized influence. The *decisional* approach seeks to trace out the involvements of individuals and the degree to which they exercise influence with regard to actual decisions made on issues within the community.

Each approach has been the target of some telling criticism. Those who have criticized the *reputational* approach have pointed out that reputations are not always earned or valid, or that at best without corroborative evidence, all the method can do is indicate those in the community who have the *potential* for influence. Unless, they argue, there is direct evidence of generalized exercise of influence through behavior there is no evidence that the potential is, in fact, an operating force getting things done in the community. Those who have criticized the *decisional* approach have argued that power is simply not always exercised in public and that by focusing upon issues it is possible to ignore an even greater power--the power which prevents an issue from arising or becoming part of the public consciousness.

Thus, in approaching the question of white power over the destiny of blacks in the community we were without either a universally accepted theory or a universally accepted methodological paradigm for its study--in spite of the widespread social science interest in problems of community power. We could, of course, have adopted one alternative or the other. Our observations of the deliberations of public bodies perhaps seems in line with the *decisional* method. However, neither thesis and neither of the methods appeared so strong to us that we should feel secure in organizing our inquiry in terms of them. Instead we adopted what might be called an *empirical-tracer* approach to the problem. We made no assumptions about the nature of power in the community. We began instead by playing hunches or, better said, by taking educated guesses of the most minimal kind.

Using our previous observations of public bodies in the community as well as the newspaper accounts of issues relevant to race and poverty in the community, we drew up a list of those people who had been publicly identified with the decision making process on each of the issues. These were our *dramatis personae*, those who had been clearly part of the action. The question of whether or not any of the *dramatis personae* could also be classed as influentials was left open, a matter to be decided after interviewing them and placing the results of such interviews in the context of their publicly identified roles vis-a-vis the issues in question. Our staff took interviews--most of them tape recorded--with almost every individual thus identified (including the township supervisors identified earlier as welfare agents whom we could not interview when we were studying the five ameliorative agencies). Each interviewer was given an outline of areas to explore in these interviews, inclusive of the history of the individual's involvement in community affairs; his philosophy vis-a-vis race problems, poverty, etc.; his specific involvement with the issue or issues which had, in fact, brought him to our attention; and the names of those with whom he had collaborated on these issues and on other projects in the past. Our list of people who might possibly be considered influentials in the area of race was thus extended through the interview process itself. Beyond this list we chose a number of names of individuals who in the course of our earlier efforts we had come to recognize as reputed influentials if not *dramatis personae*. All told, we interviewed 75 *dramatis personae* and potential influentials. All of this interviewing was supplemented by an independent study of overlapping leadership positions in important financial organizations within the community. This little study was undertaken to determine whether or not anything would turn up which would validate or invalidate conclusions derived from the interviews.



It must be remembered that our primary intent in undertaking this search for the white power structure in the community was in fact to evaluate how elements of this structure left their impact on the destinies of black men. We felt the study was necessary for the development of intelligent intervention strategies which must ultimately be considered political. Thus we were not testing either of the power structure theses. However, if we should conclude that one or the other of the alternative formulations fits better in the community such a conclusion would be significant. If the power structure were monolithic then strategies would focus on a small number of men who had generalized influence. Convince them--in one way or another--and there would be a path relatively clear of obstacles when the time arrived for introducing innovations into the community. On the other hand, if the power is pluralistically distributed in the community, strategies would have to be developed which are not only intended to convince those who are influential in these areas related to race and poverty (i.e., education, welfare, the legal system, etc.) but also to neutralize possible opposition from influentials in other functional areas who might for one reason or another see their interests threatened by the innovations of which we are speaking. If the power structure is indeed pluralistic the probability of community conflict is greater because there exists the potential for clashes between the functionally differentiated influentials.

### The Historical Study

Ancillary to the major field procedures just described we also engaged in some historical research on the development of the black community in the urban area which was our study site. Such research made use of 1) anecdotal histories taken in interviews with residents whose families were known in the community for their long history there; 2) newspaper coverage of blacks in the community beginning at the turn of the century; 3) census materials; and 4) reports of community organizations. This research was undertaken on the assumption that contemporary events are often misinterpreted without the benefit of historical perspective. Thus, we believe that our interpretation of results for the three sources of competence influence will be enriched by the historical knowledge we bring to it. A full history will not be presented here; however, data from this research will be drawn upon, explicitly and implicitly, from time to time when it seems appropriate.

### Conclusion

The above constitutes a description of the *conduct of our*

*inquiry.* In it an attempt has been made to acquaint the reader with what we did and why we did it. In doing so we hope that those who examine the substance of the report which follows (as well as the fuller monograph which is forthcoming) will be able to form judgments about the faith they wish to place in our results and recommendations. We have forsaken facile sophistication for the "nitty-gritty" of social research which is issue or problem oriented, rather than discipline oriented. We think there is wisdom in such an approach.

### SECTION III: FINDINGS AND CONCLUSIONS

In this section a report of findings will be made in a somewhat abbreviated form.<sup>1</sup> We intend to present a discussion of our findings in two parts. In the first we shall explore the black experience in a middle-sized urban community. In part two we shall interpret our findings on competence development in terms of the *logic-of-influence* model posited in section I.

#### Part I: The Black Experience in the White Community

The community we have studied is in every meaningful way a white community. True, in this city of nearly 100,000 people approximately 9% of the population is black. True, Negroes have been part of the area's population for over one hundred years. In spite of these facts, however, it can not be denied that the community, inclusive of its black population, is and has been characterized by a *white social system*.

In noting that the community is characterized by a *white social system* we mean the following: For the most part decision-making relevant to any of the community's institutions--and in particular the economy and the polity--occurs irrespective of the wishes and needs of its black population. This is less true in the present than it has been in the past (the national consciousness of the race problem has had *some* effect) but it is nevertheless true that Negroes (as well as some lower-class whites to be sure--see David Harvey's study in this volume) are not institutionally significant in spite of their numbers in the community. Perhaps some concrete examples will clarify this circumstance for the reader:

##### 1) *The Urban Renewal Controversy*

In 1965 the city council of one of the two municipalities undertook to explore the feasibility of an urban renewal project which would involve a major physical transformation of a segment of the black ghetto. The plan under consideration involved extensive condemnation proceedings against sub-standard homes owned by blacks.

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<sup>1</sup> *Note:* A full report of the findings of this research is forthcoming in a monographic format.

The owners of these homes would receive market value compensation for their property and would, theoretically, have first priority in relocating. Moreover these homeowners would be among the first of those to be housed (if they so desired) in new public housing units which urban renewal would bring to the community. (It should be noted that the original plan proposed that these units be built primarily within the ghetto area. Because the federal government objected, the proposal called for construction just west of the railroad tracks which have served as the ghetto's western boundary.) Various Negro groups organized in opposition to the urban renewal plan, claiming among other things that the plan would only maintain the ghetto and that market value compensation would work a severe economic hardship upon those who would lose their homes. With regard to this latter objection it was argued that since the market value of the dwellings in question was low, compensation would not be sufficient to cover housing costs for those who would be dislodged. No matter the condition of the dwellings in question, many were owned outright. The renewal plan, it was argued, would force these people of limited means to begin paying for housing at rates way beyond their present housing costs. In spite of the organized opposition from Negro groups in the community the urban renewal program was approved by the city council. The proponents of renewal--almost all of whom were white--were able to mobilize significant support for the program from among the business, educational, and social welfare establishments in the community. Whether or not urban renewal was an appropriate solution to the physical decay in the ghetto area (and it should be noted the urban renewal has been much criticized throughout the U.S.) it is clear that the decision to go ahead with the program represents an almost total disregard for the wishes of those most seriously affected, a large and organized segment of the ghetto's black residents.

## 2) *Labor Union Exclusion*

Skilled craft unions, with one exception, exclude black workers from their rolls. In spite of protests from Negroes in the community, no action to remedy this practice has been taken by those who conceivably have the power to do so. Building contractors have taken no action. The local clientele--those who are having construction work done--have generally remained oblivious to the Negroes' grievance. Even the university, perhaps the most significant construction client in the community,

has largely refused to risk the progress of its building program by moving to enforce the non-discrimination clause in its contracts with construction companies (non-discrimination clauses are required in contracts underwritten in whole or in part by the federal government). The resulting exclusion is so great that vocational education instructors in the public schools are loathe to prepare Negro youths for careers which would require union membership. The standard response to accusations of discrimination in vocational training is "what's the use of preparing people for jobs they will not be able to get?"

### 3) *The Burden of School Desegregation*

Because of the highly segregated residential patterns in the community, the elementary schools remained segregated on a de-facto basis until 1967 in spite of earlier requests from Negro leaders that steps be taken to rectify this situation. In 1967 one of the two school systems in the community moved to desegregate its schools under an implied threat from the federal government to withhold federal aid to the district. Desegregation was carried out without disturbing the neighborhood school concept in so far as white permanent residents of the community were concerned. The only white children to be moved from their original school in the system's bussing plan were those children whose parents were graduate students at the university and therefore transient in the community. In this case desegregation occurred not in response to the black petition which had been before the school board for some time, but in response to external pressures and it was planned in a manner calculated to minimize the burden of the community's white residents. One year later the community's second school system followed suit with its own desegregation plan. This plan involved the *involuntary* bussing of black children from ghetto schools into schools distributed throughout the city and the *voluntary* bussing of white children into the ghetto to attend class in a school operated jointly with the university as a lab school. In reflecting on the point we are illustrating--the existence of a *white* social system in the community--it should be noted that the move to desegregate did not come about as the result of black petition, but because of growing external pressures on the school system to desegregate. Moreover, the bussing plan which was finally put into effect was adopted over strong objections from representatives of the city's black population who believed that it was unfair to place the burden of bussing almost entirely upon the black children who had previously been wronged by the segregated system. It is

indeed true that the community's whites were inconvenienced not at all by the desegregation plan. Only those white children whose parents desired them to attend the lab school have been bussed while Negro parents, for the most part, have had no alternative to bussing. If the old educational arrangements were finally to be changed it would be the blacks who would bear the inconveniences almost exclusively.

#### 4) *The Ghetto as a Residential Dumping Ground*

The ghetto is also a slum. Neither of the two municipalities has shown any predisposition to enforce minimum housing standards in the area. When a civil rights group in the community went to the state's attorney's office to swear out complaints against landlords, white and black, who refused to pay heed to the housing code, they were unsuccessful. At worst the attitude in the community has been protective of those landlords who take advantage of the ghetto situation to charge high rents for less than adequate shelter; at best the attitude has been one of mindless neglect. The housing problems of the black poor are simply not of concern to the majority of whites in the community. One practice in particular has distressed many Negro spokesmen. For a long period of time several white landlords have received permits from the city to move condemned houses from other parts of the city into the ghetto where they are rented to the housing poor blacks. In spite of vociferous protest the practice has been allowed to continue.

If space permitted other instances which reflect the neglect of the black man's wishes could be cited in illustration of his institutional insignificance in the community. It should suffice, however, to note that it is rare for the position of Negro residents to take precedence over the conflicting position of whites in the community.<sup>2</sup>

The black man's *institutional insignificance* is of no little importance when we consider the problem of competence development.

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<sup>2</sup> *Note:* In further support of this contention have been practices in the not too distant past of 1) exclusion of Negroes from clerical and sales jobs in community business (a practice not altogether absent in the present), 2) refusal of service in some downtown stores, 3) segregated seating in movie theaters, and 4) recurrent derogatory depictions of Negroes in the local press.

The Negro's institutional insignificance in the general community's social system intensifies his dependence upon the (ghetto) community for a meaningful social existence. The character of that community--its expectations for behavior, its system of positive and negative sanctions--becomes central in invoking the behavior of any given individual within its boundaries because there is, for the most part, no other community in the city for these individuals. The rebuff which Negroes have experienced in the community-at-large has drastically reduced the normative impact which that community can have upon their lives. At this point, without commenting on the quality of role playing on the part of the community's competence agents (i.e., teachers, social workers, etc.) as they face onto the ghetto, we *can* note that from the perspective of many of those in the black community the credibility of these agents (their sincerity, their genuine willingness to be helpful) is undermined by the fact that they are outsiders whose efforts are sponsored by a community which has regarded them as fellow citizens only *infrequently*. From the perspective of the *logic-of-influence* model this state of affairs serves to increase the significance of neighborhood and family in determining competence outcomes for people growing up in the ghetto while concomitantly weakening the role of formal competence agents in determining the character of these outcomes. While it is true that the societal competence agents are likely to have a relatively less intense impact when compared to neighborhood and familial sources in any circumstance, we may note that the intensity of their impact is either increased or decreased according to the degree to which their target population is *functionally integrated* into the overall community. We shall draw out the implications for the socialization of competence of the black man's institutional insignificance in the community we have studied. First we shall enter some further documentation of the Negro's generally disadvantageous position in the community-at-large.

The physical characteristics of the black ghetto in the community seem on first observation to be significantly different from the ghettos of larger cities. Whereas large city ghettos are characterized by impacted tenements and little or no green-space, there are no tenements in this black community and there is green-space enough to conjure up an atmosphere more rural than urban. The rural quality of this ghetto is further evoked by the fact that there are few sidewalks, few street lights and more than a few unpaved streets. But the reader should not be misled. The absence of the urban tenement and the presence of green-space does not mean that the ghetto provides adequate physical amenities for its residents, for it most certainly does not. Fully 88% of the residences in the area are substandard and 61% of the houses are classified as dilapidated or in need of major reconstruction (1960 figures--the latest available at this writing). On the basis of visual inspection, the houses, which are only infrequently constructed of brick or other masonry, are often bereft of adequately sealed windows. Instead of glass windows one often observes window spaces covered with a kind of plastic weather-proofing, with tarpaulin or cardboard. As far as the green-space

is concerned it is more often than not overgrown, almost totally unusable for any recreation but those children's games which require a kind of camouflage. The absence of street lights discourages the use of public space after dark and the unpaved streets become all but impassable after a heavy rain. In spite of comparatively low density (relative to the densities characteristic of big city ghettos) the physical apparatus of the black community is as restrictive upon its residents as the slums of New York and Chicago are upon theirs.

The blacks of the cities we studied are poor--indeed, they are desperately poor. In a community which is reasonably prosperous, fully one-half of the Negro families has an income of less than \$4,000 per year. In a community in which the overall unemployment rate hovers around 3% the unemployment rate for Negroes fluctuates between 12-20%. It is not surprising therefore that blacks are over-represented on the public welfare rolls. The director of the public aid department has reported that approximately 69% of the department's caseload is black and that Negroes never make up less than 60% of the cases being carried.

Poverty carries with it disadvantages which are not purely economic. For example, it makes deferment of remuneration difficult for adolescents who have grown up in families thus afflicted. The inability to defer remuneration may in turn be reflected in the educational plans of these youngsters. Fewer than 50% of Negro high school students, as opposed to 90% of the white students, plan to continue their educations after secondary school graduation. Most of those black students who do plan to continue think in terms of vocational training rather than the pursuit of a college education. Without disparaging such a choice it should be noted that, on average, an individual with a college degree can expect a lifetime of greater earning power than a person who has not earned such a degree. Thus, the overwhelming choice among the black students for non-academic pursuits upon high school graduation (those who will not go on and those who opt for post graduation vocational training) represents an ultimate earning power limitation of some significance relative to those high school students, white and black, who will complete a four-year baccalaureate program. Although there are other reasons for dropping out of high school, poverty and the consequent inability to defer remuneration must be counted among the causes of incomplete public school careers. We had difficulty getting accurate figures on the Negro drop-out rate in the community. One very well-placed source indicated that as many as 50% of the black adolescents in the high school freshman class drop out prior to graduation. To the extent that this approximates the truth and to the extent that some of the dropouts can be accounted for in terms of economic hardship, the extensive poverty of blacks in the community operates to mitigate their possibilities of social mobility by means of educational attainment. Poverty it would seem is its own best keeper.



Poverty in the black segment of the community is also a health hazard. Health care is expensive in this city as it is throughout the United States. Those with limited resources are, therefore, in no position to make maximum use of the best health services and facilities in the city. When an individual is without the necessary funds he can go to the Department of Public Aid for medical assistance. However during the course of our fieldwork we found that many people hesitated to do so. True or not, many people in the black community believe that local physicians do not dispense adequate care to those whose medical bills are paid by the Department of Public Aid. Many complained that they or people whom they knew had not been treated with respect when their medical expenses were covered by the Department of Public Aid. An indigent or near-indigent person can go to the city's public health clinic but the services provided there are limited and in case of serious illness the patient is referred to a private physician.

Impoverished and physically inadequate housing contributes heavily to the health difficulties of ghetto residents. Public Health nurses who work in the ghetto remarked upon the housing conditions in that area as dangerous to the health of the residents, particularly to the young children. Ghetto conditions seem to increase the health problems of people who by virtue of their difficult economic situation are unable to avail themselves of adequate health care.<sup>3</sup>

Being poor and black in the city we studied also means being deprived of access to the full range of recreational opportunities in the community. In the not-too-distant past seating in movie houses was segregated, many restaurants refused to serve Negroes, the local YMCA refused membership to blacks, and a local ice skating club sponsored by a commercial service organization refused membership to Negro children even though the club made use of the skating rink located on the *state* university's campus. Today things have changed somewhat. Movie seating is no longer segregated, the YMCA no longer discriminates, and most restaurants in town will serve anyone. Nevertheless, local Negroes almost universally complain of inadequate recreational opportunities and facilities. There are still some restaurants and taverns in the city which do not welcome blacks. As in other communities, there are fraternal orders which bar them from membership. The two country clubs are, of course, out of financial reach but white informants, members of the clubs, report that even financially qualified Negroes would probably not be admitted to membership. Public parks and swimming pools are open to everyone but the only park in the ghetto area is of limited use because

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<sup>3</sup> *Note:* Statistics show that the infant mortality rate is 1 1/2 times greater for blacks than it is for whites.

of its generally run-down condition and inadequate supervision. A teen center built several years ago in the heart of the ghetto has fallen into major disrepair and is reputed to be the "turf" or hang out of a locally notorious youth gang. As such, many black parents hesitate to allow their children to attend activities located there. Recreational facilities at the university have in the past been open to the general public on a limited basis only. In recent years local blacks, feeling the need for additional recreational outlets, have petitioned the university to extend its hospitality without limitation. The university has grudgingly moved in the direction of opening its facilities to the public but access is still limited. All in all recreational opportunities for poor blacks in the community are not equal to those which are for the white and not so poor in spite of a movement away from the blatant restrictions which obtained until a very short time ago.

It is often true that the seemingly minor indignities visited upon them can tell a great deal about the disesteem in which a minority group is held by the majority. In the community we studied such indignities clearly indicate the low regard in which the blacks are held. For example, many Negro teenagers and adults report that they have been harassed in local stores by white personnel who suspect that they are potential shop lifters. It is not uncharacteristic for Negro adolescents to suffer public snubs from schoolmates who in the guarded environment of the classroom are reasonably friendly. A candidate for the office of county prosecutor (state's attorney) rejects an invitation to appear before the local chapter of the NAACP because he maintains to do so would be to give legitimacy to the point of view of a special interest group. The president of a local school board addresses the executive director of the local Urban League by his first name at a public meeting. The same Urban League director in his two year tenure in office is never invited to appear before most of the major community service organizations in spite of the fact that they maintain that they are interested in improving race relations in the community. The local chapter of the Junior Chamber of Commerce refuses to endorse a non-discrimination pledge sanctioned by the national organization. A public housing official angered by a petition from black tenants to increase refuse collection from two to three times a week tells the petitioners that their request will be denied and added that if they cannot get rid of their garbage in any other way, they can eat it! It should be clear from these examples that aside from the tangible disadvantages (economic, educational, health, and recreational) of being black in this middle-sized city there are consistent reminders of the fact that in the eyes of many of their white fellow citizens a Negro does not count for very much.

It is in this overall context of institutional insignificance, tangible disadvantage, and symbolic disesteem, that the black child develops his orientation towards prescribed and volitional competence.

It might be noted that the depiction of black man's institutional insignificance and disadvantaged status is not unique to the community we studied. Such conditions and others like them are, after all, what the race conflict in America is all about. While this is true, there is, however, something in the manner in which this racial differential in status and social value is actualized which differs from the manner in which the same differential is actualized in the large northern metropolis.<sup>4</sup> Because the manner in which the differential is actualized in this middle-sized urban area can be accounted for in terms of community characteristics, we might expect that middle-sized cities with the same or similar characteristics might be possessed of the same racial situation. Should this be so, then our analysis may have the effect of establishing a class of variation in American urban race relations. And to the extent that this is true such an analysis should be of considerable importance to those who desire to develop situationally appropriate intervention strategies in education and welfare. Let us therefore devote some discussion to the variation and its community sources.

*Institutional insignificance* is a product of political weakness. The inability of a segment of a community's population to make itself felt in the polity of that community invariably means that the wishes of those who belong to the group in question will have limited resonance in other institutional areas as well. Those who are politically weak cannot make the community's inattentiveness to their needs in any institutional area *costly* to that community. In the community we studied, the black man's relative powerlessness is a function of a) the formal structure of the local polity and b) the demography of political participation. In discussing the *formal structure of the polity* it must be remembered that we are dealing with *two* municipalities in the same community (see section II, pp. 130-132). In the larger of the two municipalities (the city in which most of the Negroes reside) the formal structure is characterized by a *council-manager* form of government, where the city is administered by a professional manager on appointment of the city council. The city council, inclusive of the mayor who is first among equals, is, in turn, elected at-large in a theoretically non-partisan election. The fact that the councilmen are elected at-large and without party backing is of great significance to the political destiny of the community's black population. A black candidate for the city council with strong backing in the ghetto

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<sup>4</sup> Note: See, Harlem Youth Opportunities Unlimited, *Youth in the Ghetto: A Study in Powerlessness*, 1964.

Joan Gordon, et. al., *The Poor of Harlem: Social Functioning in the Underclass*, A Report to the United States Welfare Administration, 1965.

community may, nevertheless, be defeated because he is unable to run strongly enough in the white areas of the city. During the time when this study was in the field there was no black representation on the council. In a recent election a Negro was elected to the council but only after an up-hill battle waged with the extraordinary support of local blacks, liberal university faculty and students, and some wealthy townsmen who for one reason or another thought it would be good to have a black man on the council. Even with this coalition the black candidate came in third in an election for three seats by a bare margin of slightly over 100 votes. Without this coalition galvanized into action by the assassination of Martin Luther King, Jr., and the wide-spread racial violence in American cities, it is highly unlikely that a Negro candidate could have been elected. The at-large election procedure, very popular in middle-sized cities, functions to minimize the possibilities of political success on the part of members of recognizable minorities within the community. Since Negroes constitute the most recognizable of all minorities, the at-large electoral process is a major obstacle to their political success through institutionalized channels.

The obstacle to adequate minority representation is even greater when--as in the community we studied--the election is non-partisan. Non-partisan elections prohibit candidates from running on a party ticket. This prohibition deprives candidates of a ready-made political organization having a fund-raising apparatus and a well-trained cadre of campaign workers. In such elections each candidate has to start from scratch. This circumstance of starting from scratch gives an unfair advantage to the wealthier candidates (or those who represent the interests of wealth) and those candidates who have a certain organizational sophistication. Neither of these characteristics necessarily qualifies a man for office although those possessing one or both of them are likely to be elected. When, as is the case with the city council elections, the non-partisan electoral process occurs on an at-large basis, access to wealth and organizational acuity are extremely important because of the added expense and the necessity to develop a fairly large-scale organization. A black candidate for office, without party resources, having to run in *all* districts of the city, is thus at a considerable disadvantage. Not only does he have to convince the Negro voters that he is qualified but he also has to convince potentially hostile white voters of his qualifications. In such a circumstance he has to have considerable funding and an organization which will probably have to be twice as efficient as those of his white rivals.

In the smaller of the two municipalities in the community (where fewer blacks reside) the form of government is of the mayor-council variety. The mayor is elected at-large while the council is elected as representative of separate aldermanic districts. In both instances the elections are partisan, pitting Democrat against Republican. Because of the aldermanic set-up, Negroes have been able to elect at least

one member to the council with some consistency in the last few years.<sup>5</sup> The city government of this municipality, however, has been consistently dominated by the nearly all-white Republican party, a fact which militates against the effectiveness of whatever black (Democrat) representation there is.<sup>6</sup>

In sum, the following may be noted with regard to the degree of black representation on the city councils of both municipalities. In the larger of the two the electoral process works to inhibit Negro representation (as well as representation of working and lower-class whites) while in the smaller municipality the blacks are not penalized by the nature of the electoral process, but they do find their representation limited in its effectiveness by virtue of the fact that the Democratic Negro aldermen are a minority within the minority party.

The second inhibition on the black man in the polity derives from what we have called the *demography of political participation*. In this community of approximately 100,000, political participation is a pastime. Except for the city manager and his staff in the larger of the two municipalities and professional agency heads in the community, no public figure practices politics as a vocation. The livelihood of each public figure--office-holder and party functionary--is not primarily derived from his role in the polity. The mayor of the larger municipality is, for example, the president of a construction company; the mayor of the smaller municipality is the public relations officer for a local bank; and the councilmen in both communities hold such varied positions as veterinarian, owner of a sporting goods store, owner of an insurance agency, real estate broker, housing officer for the university, professor of accounting at the university, etc. Unlike the situation in most large cities where politicians have side interests such as law practices, in the community of which we write it is politics which is the side interest to the vocational commitment of the office holder.

The semi-professional nature of local politics in this community is largely a function of its size. A community of 100,000 can rely upon a semi-professional politics because the complexity and extensiveness of government services is limited. Legislating for a population of this size (and we must remember that the subdivision of the community into two municipalities, one approximately 65,000 and the other approximately 35,000, curtails the service responsibilities of each government)

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<sup>5</sup> Note: At the time of this writing there are two Negro members of the city council.

<sup>6</sup> Note: As an index of the "whiteness" of the majority party is the fact that Republican candidates in primarily Negro wards are usually white.

is quite simply something less than a full-time job demanding prolonged and concentrated attention. Whereas a very large city has extensive budgetary commitments in mass transportation, public sanitation, public housing, recreation, etc., which fall within the purview of its city council, in the community we studied these services either do not exist as public services (i.e., mass transportation and sanitation) or else they fall within the purview of specialized governing boards (i.e., public housing and recreation). Consequently, the budgetary responsibility of the council is reduced and the effort of each councilman is curtailed while those who serve on the specialized governing boards have only to devote their energies to a delimited service function. A professional municipal politics only exists where the size of the population served and the extent of centralized public service demands full-time concentration on legislative and other governmental processes. This community of which we write does not have sufficient size and public demand to evoke and support such a politics. The polity is characterized by the active participation of those whose *vocation* is not primarily political.

The semi-professional nature of political participation works in the following ways against Negroes in the community. First, the absence of professionally-run political parties deprives the blacks of the opportunity to create a well-entrenched position for themselves in the standard organizations. The local Republican party is virtually all white; the Democratic party has Negro membership, but they are hardly a factor in determining its direction. The Democrats are most active in the smaller of the two municipalities and within that city their organization is dominated by a white, upper-middle-class contingent, many of whom are associated with the university. It is interesting to note that a former black councilman, a man largely responsible for developing Democratic loyalties within the ghetto, who announced his intention to run for the Democratic nomination for mayor was challenged by a woman who had the backing of the university liberals. She defeated the black candidate but was decisively beaten by the Republican candidate in the general election. The absence of political "pros" creates a situation in which it is very difficult to "make a deal," i.e., to trade party loyalty for party significance. Whatever else may be said of the professional politician, he is most sensitive to developing and maintaining an organization. Any perceived threat to the integrity of the political organization is in his eyes cause for negotiation, for compromise which maintains the organization by giving to the potential dissidents a larger "piece of the action." It is in this way, for example, that black political interests have become articulated with party interests (albeit at a level less significant than it ought to be) in large cities like New York, Los Angeles, Cleveland, and even Chicago. When the pros are absent organizational regularity and integrity tends to be downgraded, the special interests or "ideologies" of the amateur participants upgraded, and the possibility of stable minority significance is reduced by virtue of the quixotic personality of the resulting party organization.

There is yet another implication of the semi-professional character of political participation which mitigates against the exercise of minority power. Since each of the councilmen and the mayors of the two municipalities have interests which are more germane to their personal well-being than are their political roles, since they are, for example, local businessmen before they are councilmen, there is a tendency for these extra-political interests to weigh disproportionately in the deliberative process of local legislation. The councilmen quite often represent interests with which they have a personal connection rather than a given constituency of men and women. The "common good" or the "public interest" is often defined from the narrow perspective of the councilman's extra-political identity. When, for example, an open housing ordinance was brought before one of the two city councils, it was sent to a committee whose chairman, a local realtor, was intensely hostile to any such legislation. When a zoning ordinance regulating the use of large, garish, neon and electric signs was being considered, it was weakened considerably in a committee dominated by councilmen who as businessmen saw such signs as good for business and, therefore, good for the community. When election time draws near in the larger of the two municipalities, the Chamber of Commerce meets to determine which of their number shall stand for election. *No attribution of conflict of interest is being made here.* We simply note the high probability of mistaking one's narrow perspective for the public interest when those who theoretically act in the public interest do not do so as a vocation. In large cities legislators do, of course, represent interests; but the probability of their doing so consistently is lowered because as professional politicians they are ultimately more subject to the vicissitudes of the political game itself than to anything else (except when the pro has been bought). The competing interests are fed into the political maelstrom; compromises are sought and deals are made; the forthcoming political product in the long run approximates a balance of competing interests. The big-city professional is a power-broker between interests; the middle-sized city's semi-professional is an *interest-representative*. Minority interests in the community we studied suffer because there are no power-brokers operating in the political game, no professional politicians for whom those interests may become important in the political game to which they are irrevocably committed.

In sum, both the formal structure of the local polity with its heavy emphasis upon at-large non-partisan electoral processes and the demography of political participation which results in a non-professional urban politics operate against the black man's effective political presence in our community, at least in so far as institutionalized or representative political processes are concerned. In large cities black minorities have been able to secure a permanent place in the political game; in the community we studied they have not been able to do so.

Disadvantage, as far as the Negroes in the community are concerned, flows from their political weakness. This community was one of the last

in the state to write open housing ordinances. In one of the two municipalities the first ordinance passed actually legalized discrimination in housing by stating that such discrimination was permissible as long as the seller stated his restrictive wishes *in writing* to his real estate agent. It was not until federal law clearly superseded local housing ordinances that this municipality committed itself to a reasonable ordinance. If the blacks had been at all part of the local politics, the housing ordinance might not have been so long delayed; but even overdue, it is highly unlikely that an ordinance would have been passed which insulted every black man in the community by making discrimination acceptable on the whim of a white property owner if the blacks had been at all part of the local politics.

For several years a number of black groups have complained about insufficient Negro representation in the police and fire departments of the two municipalities. There are no Negroes in the community's fire departments, a handful of Negro patrolmen (no officers) in the police department of the larger municipality and one Negro patrolman (the first in its history) on the police force of the smaller municipality. The complaints have been answered by authorities who maintain that the blacks have simply not been able to meet the test requirements for employment. Recently a group of university people tried with little success to have the municipalities revise the requirements for employment, claiming that the tests in use are not task-related to the positions in question and are inherently discriminatory. Whether or not this is so we cannot determine, but in a large city where the blacks have a permanent place in the polity, they would not be subjected to the extensive exclusion which we find in the police and fire departments of this community.

The unpaved streets and unlighted streets in the ghetto have received scant attention from the city fathers as have all the physical ills of the area. It is, of course, true that big city ghettos are also in a state of neglect; but in those cities where the blacks have some real politicality, officials make attempts, sometimes more symbolic than real, to rectify such conditions. In such situations a political penalty can be exacted if they fail to do so. In the community we studied there are no political penalties for ignoring the blacks (or indeed for ignoring the poor whites: see David Harvey's study in this volume).

While it is true that much of the disadvantage and institutional insignificance of Negroes in this community of 100,000 derives from their political inconsequence which, in turn, is a function of the peculiar character of the local polity, there are other qualities of the community which in themselves contribute to the actualization of disadvantage. Among the most important of these is the *scale function in image-making and public opinion formation*. One of the most striking differences between the community we studied and large urban or



metropolitan areas almost immediately observable to any visitor from the larger area is the definition of what is *news* or what information should become public. The sheer size of the metropolitan area and the limitation on size in the middle-sized city are themselves factors which have an editorial function in determining what becomes part of the public consciousness. In the large city or metropolitan area the large number of events occurring on any given day precludes the publication in the mass media of any stories except those dealing with the most striking of these events. Thus, the large number of crimes committed precludes the publication of a story on each one, and a fight between a single black student and a single white student would not be considered newsworthy. There is just so much space in the newspaper or so much time on the air. The problem of the media in the middle-sized city is quite the opposite, however. With approximately the same amount of space in the newspapers and the same newstime on the air, there are significantly fewer events to be reported. Even if one adds the daily events occurring in surrounding communities they still do not add up to a surplus of newsworthy occurrences. There is a simple direct correlation between size of population and the generation of events; the city of 100,000 does not generate events on a scale of significance comparable to that of a large metropolitan area. As a result the media must search for news and in the process they extend the criteria of newsworthiness. The local newspapers run obituaries as news stories rather than segregating them on a special obit page. Any automobile accident involving bodily harm is reported on television as well as in the newspapers. Almost every crime is reported. And given the problematic nature of race relations in American society, almost any incident with racial overtones, no matter how minor, is reported. The last two of these public information categories are particularly damaging to the black man's image in the community and as a consequence contribute significantly to the maintenance of his disadvantaged social estate.

Whether or not the crime rate for blacks is actually higher than it is for whites in the community, it *appears* to be higher from the nature of newspaper accounts.<sup>7</sup> The newspapers give the impression of extensive gambling and law violation in the black community. There are numerous accounts of gambling violations and bootlegging operations in the ghetto. There is extensive coverage of fights and brawls occurring on the notorious "tenderloin" of the ghetto, a street whose name conjures up images of vice and dangerous lawlessness. The newspapers do not generally identify an arrested person as being Negro, although they do so when reporting a crime story in which the suspect has not yet been

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<sup>7</sup> *Note:* In the monographic report of this study now in preparation an extended analysis of racial variations in criminal prosecutions will be presented.

apprehended. However, they do publish the addresses of suspects in custody. Here again the scale of the community we have studied is of some significance. Publishing the address of a suspect in a large city does not necessarily identify that person as being either black or white. Except for those people who have some special knowledge of the racial composition of the neighborhood in question the publication of an address does little to identify the race of the person under arrest. However, in a community the size of this one street names, numbers, and north, south, east, west designations do establish for a large number of readers the racial identity of the suspect. From the number of ghetto addresses appearing in crime reports, it would seem that blacks are extensively involved in the criminal life of the community. As noted earlier, whether or not they are so involved is not the question here but rather the character of media-reporting which depicts their extensive involvement. Taken together, the reporting of incidents whose locale is clearly within the ghetto and the reporting of general crime which ostensibly involves Negroes is certainly damaging to the image of the black segment of the community. And while it might be argued that the press and other media in large cities do not enhance the black man's image in the general community, it is nevertheless true that by reporting events which would not appear in the media of larger cities, the local press in this community aid substantially the creation and maintenance of an image which is pejorative to the blacks.

More immediately damaging is the extensive reporting of interracial incidents. The prospect of interracial conflict strikes fear into even the most liberal of whites and in a community where the latter are a distinct minority, reports of such conflicts, even minor ones, mitigate the probability that whites will deal fairly with Negroes. It is often the fear of such conflict which motivates rejection of the blacks' justifiable desire for housing on a non-discriminatory basis and for effective school desegregation. Items on apparent racial conflict, which in larger cities would be ignored by the mass media, are brought into public consciousness. These occurrences become endowed with a potency considerably out of proportion to their actual significance. The following may be cited in illustration of this circumstance. During a period when bussing plans for the elementary schools of one of the two school districts were being formulated and debated, a story appeared in the local media which reported a racial incident at one of the integrated local high schools. The racial incident in question was a shoving match between some black and white students. When the shoving got out of hand, some punches were delivered and some epithets exchanged, whereupon the school authorities called in the juvenile officer of the police department. The fracas never involved more than a handful of students, black and white. In spite of this fact, the incident received major coverage by the local media at a time when racial sensitivities were already running higher than usual in the community. The same incident in New York City or Chicago would not have been considered sufficiently important to be reported by the mass media. In the large city context it would not have become a factor with the

potential for affecting the general tenor of racial feeling throughout the community; it would not have been an incident with the potential for hardening resistance to black petitions for the redress of an inequitable situation in the public schools.<sup>8</sup>

There is still another characteristic of this community of 100,000 which ought to be noted because of the function it has in the actualization of the Negro's disadvantage. As compared to the large metropolitan areas which have a distinctive urban personality deriving from the exigencies and complexities of their social organization, demography, and exchange relationships with other communities, urban *and* rural, the urban community we studied is more nearly integrated with its rural surroundings. That is, the urbanism of this community of 100,000 is more nearly like the *ruralism* of the areas surrounding it than it is like the *urbanism* of the large metropolitan areas we have come to identify as THE CITY.<sup>9</sup> There are several indicators which may be cited in support of this contention. Whereas the metropolitan cities of New York, Chicago, Boston, etc., have characteristically given their votes to Democratic politicians, conservative Republicans predominate in the community we studied in much the same manner as they do in the surrounding small towns and rural areas. Whereas the dweller in the metropolitan city experiences his world in isolation of rural culture, the dweller in our city is constantly reminded of the contiguousness of rural America to his community. The *4-H Club* has a program in the community, as does the *Future Farmers of America*. Newspapers, radio, and television carry extensive advertising aimed at those who follow agricultural pursuits. Many of the agencies which primarily function within the city limits (i.e., public aid, the health department, and the housing authority) are in fact county agencies whose boards consist of township supervisors who are often from the more rural sections of the county. From the points of view of many of those who are professionally connected with some of these agencies, the governing boards are ultra-conservative and out of touch with urban problems. Whereas in large metropolitan

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<sup>8</sup> *Note:* As scale plays an important role in determining the character and connotation of public information in this community, so too does it affect the styles of organizational functioning in areas which have implications for local race relations and the estate of blacks in the community. A full treatment of this facet of the situation demands a more extensive analysis than can be provided in the context of this report. Such an analysis will appear in the monographic account of this research now in preparation.

<sup>9</sup> *Note:* The classic, but much criticized, formulation on modern urbanism may be found in Louis Wirth, "Urbanism as a Way of Life," *The American Journal of Sociology*, Vol. 44 (July, 1938).

For a treatment of rural-urban differences as expressed in public opinion, see: Howard W. Beers, "Rural-Urban Differences: Some Evidence from Public Opinion Polls," *Rural Sociology*, Vol. 18, (March, 1953) pp. 1-11.

areas first-generation city dwellers tend to be concentrated among the disadvantaged in the community, in our middle-sized city first-generation city dwellers are distributed throughout the socio-economic structure of the community. There are, for example, people of considerable wealth and/or professional attainment in the community who have grown up on farms or in the surrounding rural towns. (Eighty-six per cent of the *Dramatis Personae* and *Influentials* for whom we had such information come from this type of background.)

As a result of these and other factors the community is pervaded by a strain of what might be called the "conventional wisdom" of rural America. In a manner appearing anomalous to the observer whose urban experience has been metropolitan, the dominant cultural milieu of the community seems to emphasize such things as simple, unquestioning patriotism; individual respectability; the importance of organized religion (one local television station has a regularly scheduled slot in which clergymen are invited to comment on news events); common decency (Claude Brown's important book *Manchild in the Promised Land* was withdrawn from a high school English course when a number of people objected to its use of street language and its exploration of such problems as narcotics use); and the absolute necessity of hard work and individual effort, an emphasis which underscores the general American moralistic posture toward those who are poverty stricken (i.e., they are morally disreputable).

Some of these emphases, reminiscent of the milieu which Sinclair Lewis so deftly described in *Babbitt* and other novels, are decidedly disadvantageous to the poor, in particular the black poor. Their presence creates a context with a high potential for the mutual estrangement of middle class from lower class, of white from black.

To those who subscribe to the kind of simple patriotism which uncritically glorifies not only the ideals but the actual conditions of the American system, any demand for redress emanating from those who have been excluded from fruitful participation in that system must seem to be illegitimate. Otherwise kind and sympathetic individuals embracing such a view of American society are unable to sympathize with those who are protesting their social disenfranchisement. Since blacks are the most apparent protesters, they become the objects of scorn and increasing rejection. In the hostile behaviors of those whites who embrace simplistic patriotism, blacks see confirmation of their own view that whites are ultimately unsympathetic to their cause. As a result they are hardened in their own hostility toward collaboration with even sympathetic whites. This is particularly true where uncritical white endorsement of the system is a community piety. In the community we studied there has been a trend toward increased polarization between black and white, so

much so that the kind of inter-racial collaboration which was possible at the outset of our study three years ago has become increasingly difficult to sustain.

To those who value highly "respectability" and "decency", many of those who lead the black protest--particularly in the community we studied--seem an anathema. In a community where some of the strongest protest has come from young men with police records, former hustlers and youth gang leaders, conventional conceptions of respectability are offended and the legitimacy of the grievances they protest must be, consequently, down-graded. And because the protest is often couched in the meanest of terms--because its rhetoric is often violent--conventions of "common decency" are indeed violated. Again in the eyes of the conventional beholder the rhetoric discredits the cause. Taken together, the rejection suffered on grounds of indecency and disrespectability confirms the hostility of the black rhetoric and further alienates those who use it from fruitful collaboration with *all* whites.

Finally, those who endorse individualistic self-help-pull-yourself-up-by-the-bootstraps cures as opposed to structural cures for poverty see the black protest (even in such a mild form as we find in this community) for special economic dispensations in light of their historic victimization as essentially unfair. During the past three years this author has been confronted with one situation after another in which he was told that "those people" want something for nothing. "If they would only work harder they would be alright in this community." "But you see," they continue, "those people don't want to work--why I had one working around the store fixing things and cleaning up and he didn't stay on the job but two weeks. They're just lazy--want to be on welfare and then they tell us we have to change the way *we've* been doing things!"<sup>10</sup> Blind to the historical basis for the protest, these good people, imbued with the individualism of a simpler time, can find little or no legitimacy in black demands for collective change. Their ignorant individualism stiffens their backs, once again confirming the petitioning Negroes in their belief that there is little potential for progress in a moderate posture.

The *ruralism* of this city of 100,000 thus magnifies the potential for racial estrangement. If this has not as yet been fully realized it is nevertheless the judgment of this investigator that unless new social intelligence enters into the

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<sup>10</sup> *Note:* This is a synoptic quote based upon conversations and interviews taken with local whites during the period of our fieldwork.

situation in the very near future the trend toward near irrevocable alienation will be realized, perhaps in such a manner as to surpass the estrangement we witness today in our larger cities. It is true that one finds the same kind of resistance to the black protest in large urban areas, but its normative basis is different and possibly in the longrun, more malleable. In metropolitan centers like New York and Chicago the core resistance to the black protest comes from lower-middle class and working class groups, particularly those who have sustained their ethnic identities. Their resistance is in large measure based upon their own socio-economic insecurity, their own inability to see daylight in their seemingly inexorable struggle to keep even on their mortgage payments, to keep up with their time payments, to pay their taxes, to make sure their jobs won't be lost to automation, and to believe in their own value in the American scheme of things. As a number of social observers have noted, these are people ill-at-ease with their life situation but not yet effectively organized to do anything constructive about it.<sup>11</sup> They militantly resist the black protest, displacing (and indeed misplacing) their hostility upon a too easily recognized foe. They see the black movement as a threat to their tenuous security and self-valuation. However, it is possible that patient organizational work among these counter-demonstrators and Wallace supporters can transform their hostility toward Negroes into an aggressive impulse to reform the social and economic system.<sup>12</sup> If this is likely, then their present hostility toward blacks may be more transitory than most of us have assumed.

On the other hand, the hostility toward the black protest which we have found in the community we have studied is based in large measure, if not completely upon institutionalized ruralism, upon values easily venerated because of their simplicity and home-spun truth. The resistance of those who hold these values to the black protest is not a function of incipient personal and social disorganization but, quite the opposite, it

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<sup>11</sup> Note: Saul Alinsky, a well-known community organizer and social activist, has argued that this is the case during a panel discussion held at the annual meeting of the *Society For the Study of Social Problems* in August, 1968.

Another community organizer, the sociologist Bob Cook, has made a similar observation. See: Bob Cook, "Insurgent Politics in New Haven," in *Leviathan*, Vol. 1, #1 (March, 1969) pp. 8-10.

<sup>12</sup> See Cook, *op. cit.*

is a function of the desire of people to keep inviolate a way of life which seems to be identical to the reality and promise of America itself. It seems, therefore, that the potential for prolonged white intransigence and consequently *extreme* inter-racial estrangement is higher in our city of 100,000 than it is in the large metropolitan areas which now hold our attention.

By focusing upon the conditions which actualize the Negro's disadvantage and institutional insignificance in our community of 100,000, we have in these pages attempted to indicate how variable factors such as the nature of political organization, the character of political participation, scalar variations in media contributions to public consciousness of racial matters, and variations in urban value complexes must be taken into account when one is trying to develop a concrete picture of urban race relations. We suggest that, since the actualization of disadvantage differs according to the presence or absence of certain conditions which may be classified under the above-mentioned rubrics, those planning educational or welfare interventions intended to improve upon the present state of our racial "face-off" must be sensitive to the fact that, irrespective of the technical content of their proposed programs, it will probably be necessary to adopt alternate strategies of intervention according to the manner in which disadvantage is actualized in given urban communities. At the conclusion of our report we shall present a strategic recommendation for intervention based upon the analysis just presented as well as the following discussion of competence development and the logic-of-influence model. While it may be true that there are idiosyncratic factors operating in the community we have studied, we contend that it is to a large extent representative of a class of urban communities of similar scale throughout the northern half of the United States. (The basis for this contention has been developed in some detail in Section II of this report.) If this should be the case, then our recommendation should be applicable to the large number of communities falling within this class.

We turn now to an analysis of competence development and the *logic-of-influence* model in the context of our middle-sized urban community of 100,000.

## Part II: Competence Development and the Logic-of-Influence

In order to present a meaningful discussion of the conditions of competence development as they exist for the Negroes in the community we studied, we will depart from the order in which we conducted our inquiry (neighborhood, family, and societal competence agents) and proceed from the most formal and least intimate to the least formal and most intimate influences, i.e., from societal agents to neighborhood to family.

### *Condition 1: The Societal Competence Agents*

Earlier in this section we commented upon the impact that isolation from the white social system (a condition we found extant in the community studied) might have for blacks in terms of the levels of influence effecting competence development. We noted the probability that this isolation would further intensify the neighborhood and family impacts while at the same time reducing the impact of the already less intense influences of the societal competence agents. It would seem to follow from this that if the societal competence agents are to have any chance of overcoming the situational impediment (imposed by such isolation) to effective influence on their part, they must a) recognize that an impediment does, indeed, exist; b) recognize its source; and c) be willing to change and be capable of it in their professional postures in the direction of relegating their white community sponsorship to a less conspicuous place as they confront their "clients" in the black ghettos. Failure to recognize that an impediment exists would, of course, mean that the societal competence agents would most likely continue to play their roles in a manner which because of its obliviousness to the situation must maximize the ineffectiveness of their influence. Failure to recognize the source of their impediment can only lead them to adopt techniques which are ineffective because they leave the basic problem untouched. If recognizing the problem and its source in the hiatus between essentially white agencies and the black community they are not motivated to moderate their efforts, they will, of course continue to remain ineffective. If they wish to change their approach but for some constraint, organizational or otherwise, they are incapable of doing so, they must either remain ineffective within the positions they hold or resign leaving the field to those who will be more responsive to the constraints.

In the following presentation we will focus upon the extent to which the major competence agents, vis-a-vis the black population, are sensitive to the impediment confronting their efforts and the extent to which they are willing and able to modify their professional behaviors in order to overcome this impediment.



In our investigation of the schools and those agencies which are most frequently involved in the ghetto we came across a mix of characteristics which taken together indicates how ineffective competence agents operating in terms of these organizations are likely to be and *why*. Essentially there are *two* styles or approaches, the *professional* and the *local*, which characterize agency efforts vis-a-vis the ghetto. *Both* are inappropriate in maximizing the impact of the competence agent in the black community. The *professional style* finds its purest expression in the local school system<sup>13</sup> but it is also characteristic of the efforts of the Department of Public Aid and the Public Health Agency. The *local style* is most characteristic of the Public Housing Authority and the Township Supervisors' General Assistance but may also be seen in the efforts of such agencies as the Salvation Army, the Probation Office of the courts and the Juvenile Office of the local police. Both styles, albeit for very different reasons, nurture the maintenance of excessive *social distance* between the competence agents and those black people with whom they work; as a consequence, they function to minimize the potential for positive effect.

The *professional style* nurtures excessive social distance by virtue of the fact that the parameters of professionalism demand that such an estate exist between practitioner and client. The professional is one with *special* training which, theoretically, enables him to contend with the problems of his client in a manner which his client, without such training, could not himself sustain. Built into the professional-client relationship is a *status-differential* based upon the assumed superior competence of the professional to deal with the matter at hand. The physician does not receive medical advice from his patients, nor does the lawyer receive legal advice from his clients. From the perspective of the professional, the *status-differential* is even more pronounced when the "client's" problems are those which seem to make them unacceptable in society. In such instances the professional problem solver, a solid citizen possessed of skill and higher than usual educational attainment, confronts a client who is socially stigmatized, a client who by virtue of his being a client tends to be defined as the professional's *social* inferior (the specific *status-differential* thereby becomes a mark of social distance; the specific inferiority, i.e., medical or legal, becomes a

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<sup>13</sup> *Note:* In this discussion "local school system" refers to the schools of the larger of the two municipalities. It is the system which enrolls most of the black children in the community.

generalized inferiority, i.e., social. From the perspective of the client the professional often loses his credibility because he is too far removed from the circumstances of his client's daily life; he recognizes the professional's presumed superiority, is offended by it, and rejects the professional's efforts in his behalf.

The *professional style* does not preclude the competence agents who operate in terms of it from realizing that their effectiveness with the blacks is somehow being impeded; it does tend to prevent an understanding of the source of the impediment. Because modifications for overcoming the impediment would appear to challenge the *status-differential* inherent in professionalism, the agents are often wary of undertaking them. The net result, in so far as the community we studied is concerned, is a condition in which the impediment to effective impact (deriving from the isolation of the blacks in the white community) is unintentionally reinforced by the professional style of many of those who would have it otherwise. Let us illustrate this point by referring to the following materials from our research:

- 1) A ranking official of the local school system remarked that a local black militant had been very helpful in bringing parents with problem children into school consultations. However, he noted that it was difficult to work with this person because he (the militant) wanted to be included in consultations as a "friend of the court."

*Comment:* The local militant in question is a man who did not finish high school. He has no professional accreditation and is therefore ruled out of participating in a situation where he might be of some real help. (The superintendent did note that these parents would not have come in for the consultations except through the efforts of the individual in question.) Maintenance of the professional-client status-differential seems to be as important in this example as the ostensible goal of helping the parents help their children.

- 2) The local school system ceased its sponsorship of the community's Head Start Program. The reasons for doing so derived from the fact that the local poverty group--primarily black--was demanding a restructuring of the program to give parents a more effective role in planning and executing the program. The school district maintained that it could not participate in a program in which *uncertified* people would have a policy role.

*Comment:* Again it is clear that maintenance of professional prerogatives was the issue which caused the schools to withdraw from an experiment calculated to bridge the gap between the blacks

(and poor whites) and the schools. Whether or not the proposed changes would have been effective is not the issue, but rather that the schools chose to protect their professionalism over the opportunity to experiment.

3) The principals of two secondary schools made clear their resistance to any kind of parental collaboration beyond that which is necessary to maintain good public relations. In both cases these administrators expressed their determination to exercise professional control over their schools. One principal went so far as to say that developing alliances with parent and community groups can only lead to the weakening of education because such alliances would result in a curriculum which would represent the "lowest common denominator" unifying the interests of non-professional groups in education.

*Comment:* These administrators were reflecting their general philosophy, one not pointed specifically toward Negro parents. Nevertheless, their reluctance to deal with parent and community groups can only alienate members of the black community who feel the need to have their views respected by those who administer the schools their children attend.

4) Although teachers and administrators were concerned about the problems of black children within the schools, they showed less concern for the children than they did for the new arrangements dealing with race in the schools and the effects these would have on them personally. A principal who had been very much involved in a special program for gifted children saw the bussing plan as a threat to its continuation, for the taxpayers would revolt, he felt, and some programs would suffer. Teachers in the secondary schools almost unanimously reported that the racial situation had caused them to become timid about disciplining black children primarily because administrators were themselves acting with timidity in such situations. By and large, even with the best intentions, most teachers interviewed were unprepared to contend with the slowly developing race consciousness in the schools. At best, they mouthed empty pieties about treating all children as individuals yet, in a somewhat contradictory manner, they spoke of their need to learn about the background of Negro children by making home visits. The teachers viewed themselves as underdogs whose problems were made all the more difficult by children whom they do not understand. Few in the system really knew about the isolation of

the ghetto in the community and, consequently, few understood the nature of their own relationships with ghetto children. They are professionals who have been prepared to teach the white American middle. They seem somewhat uncomfortable with this kind of professionalism--yet they still do not recognize their blinders for what they are.<sup>14</sup>

5) However else they felt about their relationships with clients, the visiting nurses in the public health agency seemed committed to maintaining their own professionalism. Most believed that although they needed to teach better health practices and standards to their black clients, they would be most effective if they maintained a professional formality in styling such efforts.

*Comment:* In general the nurses in this agency are young and committed. However, they have little sense of the ghetto's isolation in the community. They want to help but they believe that professional extension of the status-differential would be helpful in their ghetto contacts. One of the more insightful and articulate nurses reasoned that in medical matters people are more likely to accept advice from those whose demeanor makes them seem distant, and therefore elevated, than they are from people whose demeanor makes them seem ordinary. (It is as though one were to argue that the effectiveness of the medical practitioner depends upon his inaccessibility and mysteriousness.) All other things being equal, there may indeed be some truth in this position. However, in the case of the blacks in the community we studied, all other things are *not* equal. *All* the public health nurses are *white*, a fact which immediately identifies them as outsiders, as people who (from the ghetto perspective) may not have the best interests of the ghetto residents at heart. The nurses are not independent health professionals but come into the ghetto under the very visible sponsorship of the outside--or white community. (They wear uniforms.) Finally, they do not generally deal with serious illness but rather with the ordinary but important health tasks of everyday life (tasks which are very much a part of a woman's expected competence in mothering and homemaking roles). Given

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<sup>14</sup> *Note:* The characterization of the schools and race relations in this community demands a fuller analysis than we have space for in this report. Such an analysis will appear in the forthcoming monographic report of this research.

the mundane character of the tasks, professional inaccessibility would hardly seem to lend the imprimatur of mystery to them. Such haughtiness might very well be counter-productive if only because the client finds it inappropriate when dealing with such matters as the best way to bathe a baby and the provision of balanced meals for the family. The maintenance of professional reserve reinforces the black/white nature of the relationship and keeps alive the possibilities of racial hostility; it constantly reminds the "client" that the nurse works for the white system which, in some degree at least, she distrusts. In sum, this reserve tends to reinforce the structured impediment--the ghetto's isolation, institutional insignificance and disadvantage--to the agent's effectiveness.

6) The director of the public health agency, a man robust in his criticism of the private medical establishment and the overall lack of support for public health in the community, feels the need for greater involvement of his agency in the ghetto area. He believes, however, that public health personnel should be nonjudgmental, that they should remain aloof and focus their efforts on specific health tasks.

*Comment:* In a community where health problems may be related to such things as poor housing and inadequate public sanitation (as reported by public health nurses), nonjudgmental aloofness may in fact be an alienating factor in the relationship between public health personnel and their black clients. In some housing cleanliness is really not possible because of the character of the housing itself, as in the case of an apartment infested with vermin and vulnerable to windblown dust and dirt. Such specific teaching as behoves a health nurse to attempt to "educate" a parent to the necessity of cleanliness in such a situation cannot be successful while, indeed, it may create general hostility because it reinforces the perception of the nurse as an agent for the white community. It would seem callous would it not for a nurse to avoid the taking of sides in a situation such as this? Successful health teaching in the ghetto may, in fact, depend upon the extent to which the health personnel, recognizing the extra-personal health impediments, are willing to take sides with those they are working with--their clients. If they fail to do so, they are likely to create and sustain excessive social distance between themselves and those they wish to help, a distance which can ultimately destroy their credibility in the ghetto.

The *local style* of many of the societal competence agents in the community we studied is perhaps even more of an impediment to effective influence in the ghetto community, so much so that one is forced to wonder whether those who embrace this style do wish to be of influence among those with whom they work. In effect,

the *local style* embodies in the welfare effort the rural-based conventional wisdom (with its anti-poor, anti-black proclivities) of the white majority in the community. The *local style* is particularly interesting because it is self-confirming. By its very nature it generates a *self-fulfilling prophecy* whereby the approach of the competence agent precludes success on his part; his own failure is then taken as evidence of the correctness of his view of those he is supposed to serve.

The typical practitioner in the local style is an individual who has little or no formal training for the position he (or she) holds. He typically comes to his position by political appointment or, as in the case of the township supervisors (general assistance), is elected to the position. The practitioner is thus an individual who, on the fact of it, might be expected to mirror local norms with regard to race and poverty.

The following examples from our field materials are offered in illustration of the *local style* in operation:

1) The public housing authority is administered by two people without any formal training in the field. The tenant-relations officer, the person having the most direct contact with the tenants, came to her position from a job in the credit department of a local department store. The attitudes expressed by these competence agents, if such they may be called, clearly reflects the local conventional wisdom. A few quotations should suffice to illustrate this for the reader. The *tenant-relations officer* on eligibility for public housing:

. . . and, of course, the women with illegitimate children. . .if it's just a continuous thing, year after year, we don't feel we should take them because they're just too much trouble to us. We do waive. . . that if someone who has had an illegitimate child and has not had any more for say a full year, then she is behaving herself and will not be trouble to us, then we consider her if everything else checks out. . .in way of her behavior.

The *tenant-relations officer* on reasons for eviction:

Their housekeeping is another thing. So many of them. . .will not fight the roaches. . . Another thing, moral character sometimes does this. It's when women have one man right after another. . . .

The *tenant-relations officer* on the incentive problem among her clients:

It's low rent and people will stay and stay because of these low rents. They will not care whether they make any more than enough to feed the family and to keep their rent paid...So it has...it's disadvantages.

Although the basic guidelines for public housing are determined by the Federal Government, these guidelines would seem to have limited influence in the day-to-day operation of the housing projects. The *public housing director* on these rules: "You can't go by the book. You have to evaluate the situation as you see it." The moralism of the staff has resulted in a kind of one-sided "involvement" in the tenants' lives. The *director*: "I think to do the job properly you *have* to get involved in their problems." He feels that he has to find out "what's going on in the project." And he believes that he can find out more from the youngsters than he can "get out of the reports or out of the parents." In the same vein, the *tenant-relations officer* indicates that the staff encourages tenants to inform on one another, "We ask them to. . . we ask their co-operation in letting us know when someone is violating their lease."

*Comment*: Although the public housing authority is not primarily a socializing agency, in the context of the community we studied it is perceived as such. The goal of public housing in the eyes of its staff is "to get people on their feet" so that they will not have to live in the projects. Whether or not this ought to be a function of public housing is debatable--some would argue (myself among them) that public housing ought simply to be housing with no socialization or welfare functions. Nevertheless, in the community we studied, the staff of the agency sees itself in the welfare role. The moralistic posture adopted by the staff, the apparent disdain they hold for the tenants and their rights to privacy, will never convince any of the people with whom they work that they sincerely wish to be helpful. The posture adopted by the staff, a posture very much in line with the conventional wisdom which makes poverty morally disreputable, can only alienate tenants from the Authority and in the case of the blacks (who live in segregated projects) can only exacerbate whatever racial hostilities already exist among them. In the guise of welfare personnel, the staff of the Authority really functions to *police* the projects.

2) The township supervisors and their staff (an intake worker) dispense general financial assistance to people in the community. The individuals occupying these positions have had no formal training for their work and see no need for such training. One supervisor formerly worked in a lumberyard and a bowling alley and is presently a partner in a real estate business. Another supervisor was a furniture salesman before he was elected to office. The *intake worker* came on the job during the depression immediately after his high school graduation. There is no mistaking the local "conventional wisdom" in their approach to their work. A few quotations should make this abundantly clear: *Supervisor #1*, "We're a little bit hard on single people. Work is a good cure for their problems. When it comes to families, we lean over backwards to overlook laziness. . ." *Supervisor #1* does not trust in the ability of his "clients" to manage funds, "We don't give out money, only food orders, rent orders, utility orders, medical help, etc." *Supervisor #1* commented that 90% of his recipients are Negroes and that "It takes twice as long to take an application from these people; they don't know very much." *Supervisor #1* on his job, "We're doing a good job, a real good job. I don't think giving more money would help. They'd just spend more." Finally *Supervisor #1* complained about local Negroes wanting too much, "What they want is everything for colored only." *Supervisor #2* is milder on the "Negro Problem," ". . . I've always gotten along with the other side. . . These people are my friends. They've always been my friends and. . . I have worked with them and done lots of things for them when I worked in the lumber yard. . . and even now I have tried to put them in jobs if they would go, if they would go and apply for the jobs."

The *intake worker* comments upon the need for welfare:

Welfare has become a way of life with many of our people. It's a way of life and it's just as simple as that. . . it's the type of person that depends on that sort of thing [and] being out and having a responsibility, I don't think they could accept it. . . . And the more welfare that is given--the guaranteed income which they're talking about now--I can't see where its going to solve any problems. . . [the] situation's still going to be there.



And finally the *intake worker* comments on the character of local Negroes:

Now I've known a *lot* of good Negro people. . .  
I've known a *lot* of these kind and then I've  
had the other kind that are just the opposite  
and just like children.....Well, I try to  
treat everyone as a human being when they  
come in, I mean after all they *are* human beings,  
but with some of them you get terribly  
frustrated. . . You know they're not telling  
you the truth, they stand right there and  
tell you one story after another. You  
know they are but what can you do about it?  
To them they're not doing anything wrong. . . .

*Comment:* In light of the material just presented, it is difficult to see the general assistance supervisors having influence among the black people they serve. At best they tolerate poverty, reflecting in their attitudes a condescension toward the poor whom they believe are poor because of laziness or other personal inadequacies. At worst, they perceive the blacks as being a particularly unworthy sub-group among the generally unworthy irresponsible poor. One receives the distinct impression that the general assistance supervisors are not likely to extend common competence expectations to the Negroes with whom they work simply because they believe that these people are incapable of living up to them. The realization of the rural conventional wisdom in the locally-styled efforts of the supervisors is incapacitating as far as effectiveness with blacks is concerned. It is an incapacity little recognized by those incapacitated and, consequently, there is little probability of its being corrected.

On the basis of our research we are led to conclude that far from compensating for the impediment to effectiveness caused by the hiatus between the white social system and the black community, the characteristic styles of the competence agents, both *professional* and *local*, are more likely to reinforce the sense of isolation and disadvantage which many black people have. The professionally oriented competence agents accomplish this, perhaps unintentionally, by creating and sustaining excessive social distance between themselves and the blacks, while the locally oriented competence agents, operating as they do in terms of conventional wisdom of the white community, do not seem to be capable of understanding the situation of their black clients and the needs which derive therefrom.

Our findings suggest important implications for the process of educational and welfare intervention intended to make more effective the role of formal competence agents in the development of standard competence among ghetto populations. To begin with,

our findings seem to indicate that a re-examination of the professional style is in order. If it is indeed counter-productive in ghetto situations, then, for example, among other things the training and education of welfare and educational professionals will have to be revised. More importantly, on the basis of our findings it would appear that in communities where the *local style* is a significant component of the *educational-welfare establishment* it may not be possible to develop large-scale collaborative efforts involving all the agencies which have relevance in the ghetto. Those agencies which are characterized by *local style* will probably have to be by-passed in any such effort. Their orientation toward ghetto problems, vis-a-vis competence development or otherwise, would seem to preclude their effective collaboration. This, of course, raises a number of issues with regard to the politics of intervention. Can any effective effort to maximize competence development in the ghetto be mounted with the collaboration of the educational-welfare establishment in communities where that establishment is dominated by the local style? And if the established educational-welfare apparatus cannot be effectively utilized, what alternatives are possible? If alternatives are planned, what kinds of resistance are innovators likely to confront? It appears likely that in a community where the local style predominates in education and welfare there would be great resistance on the part of community powers to any effort which seems to threaten their well-entrenched methods of "getting things done."

The aforementioned implications underscore the need for a systematic comparison of American communities with regard to the conditions likely to enhance or impede the success of intervention innovations. At this point we can only suggest that community scale is likely to be a major factor in determining the character of educational-welfare styles. It may be argued that the larger the community, the more likely will the *professional style* predominate in such efforts. The reasoning behind such an hypothesis is explicated as follows: The larger the community, the larger the scale of its educational and welfare efforts. The larger the scale of these efforts, the greater will be the organizational complexity of those agencies which house such efforts. The greater the organizational complexity, the more likely it will be that organizational predicaments will demand bureaucratic solutions. The greater the bureaucratization of welfare and education, the greater will be the demand to "go by the book" (This is a requisite of bureaucratic organization.) "Going by the book" is likely to demand practitioners specially trained in procedure and protocol. Moreover, bureaucratization implies standardized criteria for employment, criteria which allow for a measurement of the candidate's competence. Taken together, the need for specialized preparation and the presence of competence tests for employment add up to professional, or

at least quasi-professional, orientation in terms of which the formal competence agents are likely to have to function. Thus, the hypothesis: the larger the community, the more likely will the professional style predominate in education and welfare.

Let us now turn our attention to the competence influences emanating from the ghetto neighborhoods and the families residing within them.

*Condition 2: Neighborhood and Familial Influences*

Our data on day-to-day life in the ghetto is quite extensive. What we present here will consist of a summary of repeated interviews and observations (see Section II, pp. 136-149). Although according to the logic-of-influence model we ought to separate our treatment of the family from that of the neighborhood environment, for the sake of economy in our presentation, we shall treat them together. Since they are both features of the black community, this mild liberty does not impair our scheme.

We have already noted some of the characteristics of the ghetto community earlier in this section of the report. Our specific concern here will be to communicate to the reader just what the ghetto offers as competence cues, what models of adult behavior exist there, and the extent to which these models are consonant with common expectations for competence in American society (see Section I, pp. 111-122). In presenting this material we will obviously make some interpretations with regard to its meaning. However, we have scrupulously attempted to avoid substituting interpretation for realities as perceived and described by the black residents of the ghetto. The reality we are attempting to portray is the reality which they have communicated to us; we are passing it along with interpretative comment deriving from the concern of this research for the problems of competence development which inhere in socially disenfranchised black communities. *One caveat should be entered before we begin. In every human group or community there is a range of variation with regard to almost any given characteristic. Thus, it should be remembered that what we describe is not likely to be universal in the ghetto community although it is characteristic of it.*

There is little or no conscious effort to reject conventional competence expectations in the black community. Contrary to views held by many, it would be difficult to argue that there exists in the ghetto community a sub-culture which legitimizes rejection of common standards of competence in the roles of breadwinner, husband and father, or wife, mother and homemaker. Although impoverished, there is no culture of poverty in this ghetto;

although black, there is no clearly articulated and universally accepted black culture in this ghetto. Competence conceptions are almost universally conventional.

A young man speaks of his abhorrence of welfare:

I wouldn't want no strange woman social worker coming into my home to give me something. I would rather earn something myself.

A young man talks about families:

Most of my friends should be happier with their families than when they are with their friends, but most are not .....It just seems like they got them a wild streak, and they have to turn that wild streak on, but after that streak is gone they just want to be home with their wife and everything....A man don't want a woman that somebody else doesn't have eyes for, but she also got to have a meal cooked for you when you come home, keep a clean house, and take care of the children. [A good family is] a woman that knows what a man likes and a man that knows what a woman likes and they put that together. A good man provides for his household wants and needs first--wife, kids, and household needs.

An adolescent girl seeking perfection in a future husband wants a man who is:

. . . kind, generous, very warm-hearted, not domineering but still he is the one who is considerate, thoughtful, responsible, hardworking, educated and ambitious.

An adolescent girl condemns Negro men for not being good fathers:

. . . I think they show a very bad example to smaller children who are growing up. . . they don't care about their children until the children are older and are working to do something for them. I mean if the child can't do anything for them, they don't want to be bothered with them. They don't want to have any part in bringing the child up or helping the child in schoolwork. . .

A married, middle-aged woman comments:

I think people in this community is like the people in all communities everywhere. We want the best for our kids that we can give them and we want a good education for our kids so they may be able to support

theirselves and live like other people live because it is important they do. . . .

Another married, middle-aged woman comments:

. . . I think that everybody that you talk to around in here would like for their child to have an education cause it is kinda hard because the money is scarce, but still they want the child to have an education.

A married, middle-aged woman comments on welfare:

Well I think a person should get out and do honest work, do the right thing, cause they be's better than begging or being on ADC or things like that.

An old woman reflects on the childrearing inadequacies of working mothers and their husbands:

When they come in they don't have no time to spend any time with him [the child] cause you know she [the mother] got to come and cook. I don't know what the daddy do unless he sit down and don't want to be bothered.

An old man criticizes mothers who "run around":

If these women would keep their ass out of that tavern or around bootlegging and stay at home and take care of those kids like they should, those kids wouldn't be out in the street.

An old man on individual effort:

. . . The Lord give me my health and strength. I'm supposed to do the rest. If a man can't do it with health and strength, baby, he can't do nothing.

An adolescent boy on education:

The important thing for the Negro today is to get as much education as he can.

Another adolescent boy:

People get on ADC because they're lazy.

A young mother on her children's education:

Well I...want them to have as much as they can get. At least when you go through school twelve years,

you learn how to type and you takes trade in mostly your Senior year...and then when you come out after twelve grades you can get a decent job.

These representative statements directly express and indicate an underlying conventionality not dissimilar from that which one would expect to find among the white citizens of this middle-western community. In spite of their isolation and disadvantage, the blacks in the community we studied evaluate their fellows in terms of standard expectations for competence in American society.

But what of the actual behavior? Given the conventionality of competence expectations, to what extent are these expectations realized in the day-to-day life of the ghetto community? To what extent are there models of conventional competence available to the growing child? On the basis of our research, we must conclude that in spite of the conventional expectations the characteristic day-to-day behavior of the people in the ghetto is unconventional, that is, it characteristically violates the competence conceptions held out as ideal by the blacks themselves: the standard American expectations for social competence.

In describing the day-to-day life of the ghetto, there is one overriding characteristic or social fact which sets it apart from the rest of the community. The ghetto is characterized by the preeminence of what may be called *status-incursion*. In most settings, social order depends upon the maintenance of fairly explicit status boundaries. That is, in most social settings individuals characteristically occupy certain statuses, behave in terms of the role prescriptions for these statuses, and accrue to themselves the rewards and prerogatives which identify the statuses. While individuals occupy a number of status positions, they also are aware of the statuses of others together with the rewards and prerogatives of the latter. If social order is to be maintained, this recognition by individuals of statuses they do not occupy must also be accompanied by their willingness to recognize the legitimate rights of others to the statuses in question, and by a willingness to forego the rewards and prerogatives which accrue thereto. This does not preclude an individual from aspiring to certain statuses which he does not presently occupy so long as his aspiration falls within the range of institutionally appropriate possibilities for individuals occupying his complex of statuses, and so long as he recognizes and abides by the preordained conditions for their realization. Let us put this somewhat more concretely. A fifteen-year-old boy normally occupies the following complex of statuses: 1) he is an *adolescent*, his age-cohort status; 2) he is a *student*, meaning that he is a subordinate in school; 3) he is a *son*, meaning that he is still a dependent member of a nuclear family; 4) he is a *male*, his irrevocable sexual status. Such a boy

will also have an awareness of statuses he does not occupy and recognizes those who have legitimate rights to them. He is, for example, aware of *adulthood* as an age status, *fatherhood and motherhood* or *marital estate* (husband and wife) as non-dependent status in the nuclear family, and, of course, of the irrevocable difference in sexual statuses as between *men and women*. Some of these non-occupied statuses (those he does not occupy) he may not legitimately aspire to because of the status he presently occupies. Because he is a male he may not legitimately aspire to femininity or motherhood; to do so would mark him as deviant. He may aspire to some such as adulthood, fatherhood, and the married estate so long as he recognizes that in this society his present age status does not permit their immediate realization. He contributes to the maintenance of order in his social setting by recognizing those who have legitimate rights to the positions which he does not occupy and by tacitly assenting to their claims to the prerogatives and rewards which are associated with such statuses. In a situation in which a large number of fifteen-year-old boys attempt to realize institutionally illegitimate statuses (that is, statuses which are illegitimate for fifteen-year-old boys) and in which the claims of the legitimate occupants to associated prerogatives and rights are rejected by these boys, a condition of *status incursion* exists, a condition characterized by excessive conflict resulting in a weakening of the normal social order. Status is *social property*, and *status incursion* may be conceived of as *social theft*.

Why status incursion and the consequent social disorder should become characteristic among a particular group of people is not empirically determinable at this time. However, in our research we did find it to be characteristic of the ghetto population and we offer the following general hypothesis with regard to its etiology. *Status incursion* will occur when individuals occupying institutionally legitimate status positions are systematically deprived of the prerogatives and/or rewards generally associated with such status positions. When status positions are unrewarding, the individuals occupying them will seek to rid themselves of them and to accrue to themselves the rewards and prerogatives of statuses they may not legitimately occupy. Concretely, if fifteen-year-old boys are deprived of the rewards of adolescence, of familial dependence, of being students, or of masculinity, they will seek the rewards which they perceive as inhering in other status positions such as adulthood. As a consequence, they are likely to attempt a *theft of status* and the process of *status incursion* will be set in motion.

In the ghetto community which we studied positions of status, which in the larger community and society have accrued to them

certain rewards and prerogatives, are often unrewarding. This is a function of the generally disadvantaged situation in which blacks find themselves as they go about their lives in a community which only infrequently takes their needs and desires into account. Whereas among the white middle-class who predominate in the community-at-large the adult man can expect a predictable flow of rewards accruing to him for his participation in the economy, black men cannot generally be secure in any such expectation. The possession of skills or specific task qualifications is no guarantee of employment and consequent reward in just correlation to their possession. Even formal commitments often fail to be honored or are honored only after an issue is made of the fact. At this writing, a program set up to train local Negroes in mental health jobs seems on the brink of collapse because the agency committed to employ indigenous black men has failed to do so several months after the trainees qualified for the positions in question.

For Negro men, the failure to receive equitable and predictable compensation for economic effort can mean deprivation of rewards and loss of prerogatives in the status of husband and father. Talcott Parsons has noted that the maintenance of masculine status within the nuclear family depends upon the man's continued adequate participation in the economy. He argued that economic inadequacy will result in the loss of interpersonal rewards within the family context (Talcott Parsons, 1955). To the extent that this is true the economic deprivation of black men in the community we studied increases the potential of loss of rewards usually associated with the father-husband status within the family. The economically unrewarded or under-rewarded man cannot exercise the disciplinary prerogatives of fatherhood or the leadership prerogatives of the husband, for he is seen by his wife and children as contributing less than he should to their well-being. Not being able to depend upon him, they do not accept the legitimacy of his status claims. He not only is more likely to lose commonly expected prerogatives, but also the rewards of familial esteem and affection which are more or less characteristic of the father-husband status in American society.<sup>15</sup>

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<sup>15</sup> Note: The weakened status of Negro men in their families has been linked historically to their economic irrelevance to the family unit. See: E. F. Frazier, *The Negro Family in the United States* (Chicago: University of Chicago Press, 1939).



Black women are also deprived of common status rewards and prerogatives in this community. In the white community a woman usually can expect that her homemaking efforts will result in the kind of home from which she can derive some satisfaction. Black women in the ghetto, daily confronted with the gross physical inadequacies of their dwellings, have no assurance that their efforts will result in a home in which they can take some pride or satisfaction. Thus, the potential for loss of commonly expected rewards in homemaking is much higher for black women than it is for white women because the community has relegated its black citizens to poor housing.

The economic deprivation of black men indirectly deprives black women of some of the common rewards usually associated with conjugal status. The strain caused by the man's economic inadequacy can deprive the woman of those interpersonal gratifications which a wife can expect in a relatively harmonious marriage. In American conjugality, the status rewards of the wife are contingent upon the successful role playing of the husband. Anything which therefore limits the possibilities of husbandly success increases the possibility that the wife will not derive commonly expected interpersonal gratification in her marriage.

One might expect that adolescent status in the ghetto community would be least subject to the loss of rewards. It is, after all, easy to see adolescence--any adolescence--in a relatively small community with accessible country side as a picturesque idyl à la Booth Tarkington. Unfortunately, black adolescents are just as deprived of status rewards and prerogatives as their elders, if not more so. And once again we must note that such deprivation is a function of the general character of black disadvantage in the community. Adolescence in American society is the time during which the individual seeks his adult identity by rehearsing with his peers the adult roles he will soon be expected to play.<sup>16</sup> These rehearsals hopefully occur in a benign, supportive environment. In return for rehearsing their futures, adolescents in such environments can claim as their rewards the gratifications of what might be termed the adventure of becoming. For the black adolescents of the ghetto the probability of attaining such rewards is severely reduced by virtue of the fact that for most of them the environment is neither benign nor supportive. In the painfully desegregated secondary schools of the community, their status as students is likely to be far less rewarding than is

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<sup>16</sup> Note: For a discussion of adolescence in these terms see Erik H. Erikson, *Childhood and Society* (New York: W. W. Norton and Co., 1950) pp. 227-229.

the same status of the majority of their white peers. They are, for example, more likely than their white peers to be relegated to remedial and vocational programs which, by the testimony of the teachers who work in them, tend to stigmatize those students in them as stupid and less able than those who are not. Within the vocational programs themselves black students are more likely than white students to receive unequal treatment--such as assignments to dead-end jobs in the work-study program--because their instructors believe (quite correctly as it turns out) that their vocational future is limited by the discriminatory hiring practices which are characteristic of the community. The stigmatization and loss of reward in the status of student is probably all the more damaging because the secondary schools draw their students from all class levels within the community (a function of community scale) and therefore the black student has constantly available to him a picture of the rewards which, while inaccessible to him, are obtainable as a matter of course to other students--particularly the middle-class whites. There are other deprivations to be experienced, or at least believed, by black adolescents in their student status. They complain that they have generally been excluded from meaningful participation in extra-curricular activities such as dramatics. (The dramatics teacher at one high school claims that there is no systematic exclusion but recognizes that black students do not try out for productions *because they believe* they will not get a fair chance.) Even athletics is claimed to be discriminatory although there does not seem to be any definite evidence of this. (Blacks report that for every talented black athlete who is allowed to participate, there are many others who are not. It is true that as of 1968 there were no black cheerleaders and no black team managers.) Even if there is no discrimination at all, the blacks, because of the racial gestalt in the schools, believe that there is. As a consequence, they seem reluctant to participate, thereby denying themselves the possibility of many rewards characteristic of the student status.

Much of adolescent rehearsing for adulthood goes on in recreational settings, formal and informal. Given the racial situation in the community we studied, black adolescents are likely to feel unwelcome in many of the formal settings in the community. Inter-racial gathering places are approached warily by blacks and as we have noted earlier, the recreational facilities within the ghetto leave much to be desired. As a consequence, black adolescents feel constrained in their mobility throughout the community and such constraint may be understood as a deprivation of status rewards and prerogatives. Constraints upon recreational

mobility are indeed constraints upon the adventure of becoming.<sup>17</sup>

Being a son or a daughter is a meaningful status only to the extent that fathers and mothers are interpersonally adequate. In the ghetto situation where economic deprivation lowers the probability of interpersonal adequacy in the family--particularly on the part of Negro fathers--it also indirectly deprives the adolescents of the interpersonal gratifications which must be counted as important status rewards for people in that age group. What are the interpersonal rewards which accrue to the fatherless son or daughter? What are the interpersonal rewards which accrue to the adolescent whose mother must work long hours because of the economic inadequacy of the father? What indeed are the interpersonal rewards of an adolescent who is consistently confronted by strife between his parents? The position of black adults in this community is such that it increases the probability (relative to most white adolescents) that the status of son and daughter will be empty of the rewards usually associated with them in American society.

In summary, the position of the ghetto residents in the community-at-large is such that it deprives their common statuses of common rewards and prerogatives. This, we argue, is at the root of the process of *status incursion* which is characteristic of the ghetto.

The characteristic *status incursions* found in the ghetto we studied may be listed briefly as follows:

- 1) Defaulting in the role of provider, many men attempt to infringe on the prerogatives of dependency usually associated with the woman's status within the family context.
- 2) Rejecting work roles and family status, many men compete with adolescents for "turf" or social space within the community for their increased interests in recreational avocations such as gambling and drinking.
- 3) Rejecting family status, many men compete with adolescent boys for sexual access to adolescent girls.

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<sup>17</sup> Note: Black adolescents have used universities but with a certain amount of trepidation. Some were stopped by university police and questioned with reasons for being in the campus area.

- 4) Deprived of dependency prerogatives by the economic inadequacies and conjugal defaults of men, many women re-enter the dating-mating pool of available women in competition with younger single women. This is an intensification of what Professor Bernard Farber has called *permanent availability*.
- 5) Deprived of the common status rewards of adolescence in the schools and in their families, many youngsters attempt to opt out of this status in the following ways:
  - a) Adolescent boys leave school and become strictly *local* spending their time in competition with older men for recreational space and for sexual access to unattached women and adolescent girls.
  - b) Adolescent girls enter into a sexual competition with adult women.
  - c) Adolescent boys take up new status as members of juvenile gangs which attempt to impose an informal sovereignty over community facilities usually controlled by adults; a case in point is the control exercised by one juvenile gang over a local community center.

There are two important implications which may be drawn from the fact of *status incursion*. In the first place such a phenomenon underlies the high incidence of conflict internal to the ghetto community. Encroachments upon status prerogatives and status rewards tend to be met with hostility on the part of those who feel they are being crowded. In the extreme, this phenomenon has resulted in actual physical confrontation. When a gang of adolescents learned that a group of adult men wanted to "take them over," a major battle was avoided at the last minute as the gang leader saw the wisdom of compromise. Beyond such confrontation, *status incursion* underlies, at least in part, the internal fragmentation of the black community. Status conflicts make it difficult to forge solidarity among those who are party to such conflicts. This is one reason (among others) it has been difficult to organize the ghetto residents in behalf of community aims.

More important to the immediate concerns of this report, the problem of social competence development, *status incursion* means that in spite of widespread endorsements of conventional conceptions of competence there is widespread competence default in the roles of provider (breadwinner) husband and father and for women widespread default in the role of wife. (We have no

evidence of widespread default in the roles of mother and homemaker.) Not only are children and adolescents exposed to widespread behavioral violations of conventional competence expectations among adults, but young children are also exposed to adolescent behaviors which consistently opt out of conventional adolescent status. Thus, we have to conclude that the neighborhood environment is rife with qualities which impede rather than enhance the development of conventional social competence.

It can not be emphasized too strongly, however, that these impeding qualities are *situational adaptations* to the generally disadvantaged position of blacks in the community we studied. Without the economic disadvantage of the men and without the unfortunate educational experiences of many of the adolescents the incidence of *status incursion* would no doubt be markedly reduced. It would be a mistake to see the behaviors noted in this report as sub-cultural. There is little justification for them within the community itself. It is not a culture complex which needs to be modified but rather the relationship of blacks to the white social system of the local community which needs to be modified. Reform must come in the direction of creating solutions in which conventional statuses can be endured because conventional rewards are earned by those who behave competently in the roles associated with them.

There are, of course, adolescents who appear to be realizing their potentials for conventional competence. How do they seem to be accomplishing this? In an earlier section of this report we suggested that the impeding factors in the immediate neighborhood environment might be neutralized as a result of an agreement in competence cues between formal competence agents and the family. We suggested that given the family's intensity of impact upon the growing child, when familial competence cues are in conformity with the competence cues presented by formal competence agents there might be some potential for overcoming the effects of a competence-impeding neighborhood environment. At this time, we are not in a position to present definitive findings relevant to this hypothesis. However some of our material does suggest that the hypothesis may have some validity.

In some of the cases where the adolescents seemed to be realizing conventional competence, i.e., they were very successful in school and displayed little inclination to opt out of conventional adolescence, we found that the family competence cues were indeed quite conventional and that for one idiosyncratic reason or another, the formal competence agents, particularly school personnel, had developed what might be termed a collaborative relationship with the parents or parents surrogates. (This in spite of the fact that, generally speaking, the intervention style of the schools did not enhance the probabilities of such an occurrence. See this section pp. 183-185.)

There is, for example, some indication that such a collaboration or alliance comes into effect when the child in question displays a special skill or talent which is important to the school or to some aspect of the school's program. Take the case of Ben Williamson (a pseudonym). Ben is a high school senior who very early demonstrated remarkable athletic ability. In high school Williamson played football, basketball, and baseball, and ran on the track team. His family life was such that a step-father played a minimal role in the lives of his children. Nevertheless, he did demonstrate competence in the breadwinner role by working steadily as a technical inspector for the department of the Army. Mrs. Williamson appears to be a very strong woman, the dominating figure in the family, who cares for her family and also holds a civil-service job. Because Ben's athletic prowess has been important to the school, the professional personnel in the school seemed to have taken a special interest in him. As a consequence teachers and mother have appeared to work together to steer the adolescent in question away from the environment of his immediate neighborhood. There have been consultations between school personnel (the coaches) and the mother on everything from the way she disciplines him to his plans for the future. (There is some possibility that he may become a professional baseball player after graduation.) Ben Williamson is and has been *important* to the school he attends. He draws attention to the school and is a source of pride. Because of his recognized exceptionality he derives adolescent status gratifications which many of his black peers are denied. He spends more time involved in school and school-related activities than he does in his neighborhood. As a result, the probable deleterious impact of the neighborhood environment has been neutralized. It has been less of an impeding factor in his development than it is in the lives of less ostensibly exceptional black children and adolescents.

Without pushing too far with this, the material we have analyzed to date suggests the following: When the competence agents develop an effective alliance with the families of ghetto children, those children are likely to be spared overexposure to a neighborhood environment which strongly militates against conventional competence development. Given the generally counter-productive styles, professional and local, of the competence agents, such alliances or collaborative relationships are likely to occur when there is "something in it for the competence agents," some reward, e.g., being the coach of a great high school athlete. Such collaboration is also more likely to take place when the family's competence orientation more likely approximates the conventional expectations than the characteristic competence violating behaviors of the immediate (ghetto) neighborhood. The collaboration seems to work. How is the collaborative relationship to be cemented when the child or adolescent is less than exceptional and the family competence orientation violates standard expectations?

The Logic of Influence: Some Conclusions and Reflections on the Unthinkable

In the middle-sized city we studied, we found that the formal competence agents were tied either to a self-defeating *professional* style of intervention or to a *local* style which in its embrace of the *rural-based* conventional wisdom was hardly calculated to bring poor black people into meaningful participation in the community.

We found, moreover, that the actualization of general prejudices against the poor and the black was such that the ghetto population had to be considered institutionally irrelevant, isolated, and deprived within the community.

Finally we noted that deprivation of status rewards leads to competence default and chronic *status incursion* in the ghetto in spite of the fact that conventional conceptions of social competence were endorsed as being expected and desirable.

Thus, we would have to conclude that for any black child growing up in this community the probabilities of attaining general competence by virtue of the socialization process *are extremely limited*. As things stand today there is very little to indicate that the present generation of ghetto children will obtain a measurable increment in social competence over that of their parents. The prognosis is not good because for the most part all levels of influence seem to be operating to impede rather than enhance the probabilities of realizing their competence potentials.

There are questions which remain unanswered. For example, we do not know on the basis of this research to what extent this prognosis is true for large metropolitan areas and cities of the same scale in other regions of the United States. We have touched upon comparative problems and implications of our findings in this report. Nevertheless, definitive statements with regard to the problems of competence development which blacks have in urban contexts must await further systematic comparisons.

In concluding a report such as this it is customary to present a series of recommendations. We would like to conclude with a series of reflections on possible strategies of educational and welfare intervention in communities such as the one we have been studying.

How can the pessimistic prognosis be reversed? The usual answers which come from educationists and welfare technicians would have us believe that if only the right pre-school curricula, the right grade-school curricula, or the right welfare formula, etc., could be invented then ghetto children would be better prepared to contend with the increasing options they have in the society-at-large. Without denying the importance of such inventiveness it seems to this writer that

answers like these are insufficient in their ignorance of situational impediments to competence development. The proliferation of innovative curriculum developments such as those reported in Vol. I of this document is technically impressive; but as the mounting evidence indicates, it is also *ineffective* as the sole response to the problems the innovators are seeking to address. Some critics of these programs, find them to be inadequate because of some presumed unmodifiable condition (e.g., a genetically determined inability to abstract) in the target population (at least the black target population) which precludes the effectiveness of any innovation which does not take this inherent and irrevocable condition into account. The evidence for the presence of such an impediment is tenuous and it would seem gratuitous at this point to modify curriculum programs on the basis of such criticism.

It is probably true that on some level nearly all of these innovations could be beneficial. The extent of their effectiveness, however, *is not* a function of technical proficiency. It *is* a function of the situational (or social) contexts in which they are employed. When we focus upon innovation in virtual exclusion of context, and when our criticism is directed almost exclusively to the content of such innovations we unintentionally divert attention from what are most likely to be the factors determining success or failure. In so doing we sustain a technicist myth. We delude ourselves and seduce our professional audience into believing that all we need do is to continue our search for that elusive educational formula which will set things right and bestow upon the so-called disadvantaged their often denied birthright to full participation in this society. Pursuing such a course is not only foolhardy, it is a dangerous threat to the viability of orderly reform as a method of remediation. As such efforts continue to fail the probability of wide-spread despair will increase. The educational and welfare professionals will lose faith in their abilities to help "those people," their sponsors will cease providing them with funds for their work, and "those people" will in turn become even more alienated than is presently the case from an "establishment" which they perceive as self-seeking and unconcerned with their plight.

Given the character of the educational welfare establishment in the community we studied as well as the character of the deprivation and institutional insignificance of the blacks in that community, it is difficult to see how any innovation--no matter how technically sufficient--can succeed. A program administered by those who are unequivocally committed to the *professional style* would be rendered ineffective by the maintenance of excessive social distance between the professionals and the clients. A program which requires the collaboration of those who are uncritically committed to the *local style* would soon be emasculated by the prejudices inherent in the conventional wisdom of the white majority in the community. A program which does not recognize that learning difficulties and competence problems are a function of the ghetto community's situational



adaptation to the political and economic conditions of its institutionalized disadvantage would simply be irrelevant.

What then is to be done? The obvious answer is that less effort ought to be devoted to technical solutions and more effort ought to be spent developing models of political and economic solutions which if adopted might create situational contexts in which the educational innovations--of which there is already an abundance--might have lasting positive effects. But what *specifically* should be done? There are two models which we can propose for communities such as the one we studied; the *first is reasonable but improbable*; the *second is outrageous*, but in the long-run it may be our only choice.

The first approach or model places emphasis upon attempts to convince decision-makers in the community-at-large--in the polity, in the economy, in education and in welfare--of the necessity of changing the manner in which the white social system faces onto the ghetto community. It would mean convincing them of the black's disadvantage and institutional insignificance. This, for example, means *convincing* union leaders that they ought not discriminate in their apprenticeship programs; it means *convincing* local employers that they ought to spend time and effort recruiting black employees (particularly men) for positions above the menial level; it means *convincing* the local "establishment" of the need for major reform in the political system, reform which would guarantee to the blacks representation on all decision-making bodies in the community; it means *convincing* the local-style welfare operatives of the inherent injustice and prejudice in their approach to blacks; it means *convincing* the professional style educators and welfare operatives of the self-defeating nature of the way they approach their work with the blacks. That is a lot of *convincing*, particularly when one understands that *it is not in the immediate interests* of those who need such convincing to make the required changes. For example, union *discrimination is* in the interest of those who are union members. By keeping out an easily identifiable group of people, the construction unions can control the local skilled labor supply so that the demand for such labor is likely to be in excess of the supply. Recruitment of blacks for non-menial jobs from the perspective of local employers would seem to require an unnecessary expenditure of time, effort, and money, particularly since menial employment and under-employment has not resulted in an appreciable loss of Negro customers. Political reform would mean sharing power and people who have power are loathe to lose even some of their prerogatives. The local-style welfare operatives, elected or appointed, function in terms of the local conventional wisdom. For fear of losing their jobs if for no other reason they are likely to be resistive to changes which run counter to the popular mores of the white majority. The professional style educators and other related operatives are forever waging a battle to convince laymen of their rights to professional status and the rewards which go with it.

They are thus hardly likely to become convinced that their effectiveness in the ghetto depends upon something other than the approaches they regard as defining their special competence. We ought to be sophisticated enough in our social science to know that it would be extremely difficult, if not impossible, to move people in the direction of reform which, in fact, seems counter to their narrow, but nevertheless real, interests. It appears that although the reforms of which we speak are moderate and desirable, that although they would result in a situation which, in all probability, would eventually extend the influence of formal competence agents and reduce the extent of status incursion within the ghetto, there is little likelihood that they could be achieved under the present circumstances.

The second approach or model is offered with the declaration that contrary to appearances it is a prescription for the *eventual integration* of black men and women into American society as full participants. This approach takes as given the immense difficulty of attempting to move people against their perceived interests. Because of this, it is an approach which seems outrageous but is in fact consonant with the interests of both black and white. Therefore, it is an approach which holds the possibility of realization.

The model here proposed is a model of social, economic, and political reform which seeks to bring about long range integration by short range *permissive community separatism*. *The intent of the model is to create those conditions which will maximize the realization of the black's competence potential in both prescribed and volitional roles.* By *permissive separatism* the author means the following.<sup>18</sup>

Instead of attempting to make the black ghetto community more significant or relevant to the white community, it is recommended that the black community's isolation from the white social system be formalized by virtue of its secession from the two municipalities of the community and with the assistance of direct federal grants-in-aid that it incorporate itself as a separate municipality. The black community would then be in a position to determine (within limits to be sure) its own destiny. It would elect its own municipal officers and its own school board and provide its own welfare services. As part of the secession agreement it would be granted parcels of municipal lands sufficient to house the development of local industry. Such industry would be developed on the basis of contracts negotiated with firms seeking to develop plant facilities in the general area of the community in question. Full secession would not take place

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<sup>18</sup> *Note:* Because of the probable controversial nature of this proposal the author wishes to make clear that it is his proposal and his alone. Its presentation here does not imply agreement by either the major study directors or members of his staff.

until such industries provided a viable economic base for a community of some 10,000 people. On the assumption that the community does not possess all the skills necessary for the provision of all municipal services, particularly in the areas of education and welfare, elected officials would be given the power to import these services on a contractual basis from the community's immediate neighbors. The community would pay for these services and would thus be in a position to determine, to some extent at least, the manner in which they are provided.

Envisioned in this proposal is a situation in which the ghetto takes *possession of itself*. It would establish for the black residents the opportunity for meaningful political participation, the opportunity to make decisions effecting their own lives, instead of having to defer to white decision-makers who cannot be counted upon to recognize their needs.

The key to such a proposal is money. It will take money to purchase real property from outside landowners; it will take money to indemnify the municipalities from which the community secedes; it will take money to contract for educational and welfare services. Since the ghetto is impoverished, such money must come from somewhere else and it must come with few strings attached. The obvious source of such funding is the federal government. The case for federal funding can be made as follows: The federal government already spends a considerable amount for welfare services which eventually end up in the ghetto. Under this proposal it would fund the ghetto community directly by a system of grants to its municipal government. To those who would argue that this represents the allocation of amounts in excess of present expenditures for the same population, we say this is probably true; but such increased expenditures are necessary. To those who would argue that this represents special treatment, we answer again this is probably true but such special treatment is necessary and can be justified. It may, for example, be argued that the monies to be granted are in fact owed to black people. Such grants can be seen as indemnification for the criminal enslavement of their forefathers and the centuries of unrewarded enforced labor under slavery which contributed to the economy of this nation. The grants may thus be conceived of as repaying a debt of honor.

No doubt many will argue that such a proposal cannot work. They may maintain that it would be impossible to convince the existing municipalities to allow secession on the terms outlined above. It seems to this author, however, that if the federal government offers to provide funds so that the municipalities will receive value for their losses, and given the fact that secession would relieve the tax burden of the white community, it may not be as difficult to strike an agreement as it first may seem. After all, the racial tenor of the community is such that it would probably be easier to

convince the whites of the virtues of *separatism* than it would be to convince them of the virtues of *integration*.

Some may question the viability of a community which admittedly would have to be built by people who have little organizational and political experience. Moreover, they might argue that given the extensive internal conflict in the ghetto, factionalism would soon destroy the experiment. In answer to these criticisms, this writer would argue as follows: There are individuals in the ghetto who do take leadership roles and do exert influence. They would no doubt constitute the nucleus of the municipal polity. Secondly, by creating a situation in which there are *real* rewards for participation and by creating a challenge--a challenge to show the doubters and particularly local white doubters that the community can be successful--the likelihood is that strife and excessive internal conflict can be mitigated. As we have noted in the body of this report, much of the internal conflict in the ghetto occurs because of its deprived character. By removing the deprivation, by making conventional rewards accessible, such conflict as now exists may disappear (not overnight) or at least be reduced to such proportions as not to threaten the viability of the community.

It must be emphasized that the proposed *separatism* is permissive. One would hope, however, that the experiment can be made attractive enough to hold the loyalties of those who might otherwise wish to leave. Moreover, it is proposed that the experiment go into effect only upon endorsement by a large majority of those people presently residing within the ghetto.

Finally, it must be remembered that *community separatism* is not an end in itself, but rather a *means* to a true state of integration between black and white. If the present situation exists as we have described it, there is little chance of an immediate move to integration. The gulf between white and black in the community is too great to be effectively bridged at present. Generations of black children will reach maturity denied, denigrated, and, consequently, without the full competence to demand meaningful participation in the community. The underlying hypothesis in the proposed *community separatism* holds that by giving responsibility to those who are presently denied it, a social context will be created which enhances the realization of competence potential. The sooner large numbers of blacks are able to realize in their behavior the competence expectations *they themselves endorse*, the sooner will they and their children lift themselves from despair and give undeniable challenge to the racial dichotomy in American life. It is for this reason and this reason alone that permissive *community separatism* is being proposed. While it might not be effective in all urban contexts, there is a good chance that it can be effective in urban communities such as the one we have studied.

Although this proposal may seem impractical, it is the *only practical solution* if it is the *only* solution. Technicism in educational and welfare intervention appears, for the reasons we have given, to be less than adequate unless it is accompanied by situational reform. Situational reform which seeks its success without changing the basic organization of the community will--again for the reasons we have given--most likely fail. By a process of elimination, therefore, it would seem that we are left with the model of *permissive community separatism*.

Conclusion: The Perils of Technical Emphasis  
in Educational Innovation

Each of the studies presented in this report contributes to a sociological critique of contemporary educational intervention among the poor or the "disadvantaged." While each study has proceeded with an independent conceptualization and methodology, all three investigators have argued that curriculum development which neglects social context is likely to be unsuccessful. This is the summary conclusion which must be drawn from Farber's concern with the impact of kinship upon socialization, from Harvey's enjoinder to the effect that the educational problems of the lower class can not be solved in the classroom, and from Lewis' proposition that in some cities, at least, black children will not benefit from educational innovation unless it occurs in conjunction with the separation of the black ghetto from the white dominated community.

These conclusions may be upsetting to those who are committed to continual curriculum innovation in search of a panacea which will realize the long deferred dreams of America's dispossessed. We respect the worthy intentions of those who subscribe to such a course. We certainly do not want to disparage the technical proficiency which they bring to bear on the problems they have set out to solve. Nevertheless, our findings compel us to warn against placing faith (and of course, funds) in a narrow technical approach. Technical emphasis in educational reform (particularly that which is intended for the dispossessed) may preclude any possibility of educators making a positive contribution to the obliteration of the social and economic injustices which victimize millions of Americans. In the end such programs may even unwittingly contribute to the collapse of the existing social order.

Technical emphasis in education, as it is in welfare services, is a symptom of a condition which may be termed progressive status-quoism. If this term seems to contradict itself, we would assure our readers that it does so intentionally. We have chosen this label because the condition it characterizes is a social contradiction. Progressive status-quoism occurs when there is a symbolic (or apparent) attack on a social problem. Such an attack seldom acknowledges or deals adequately with the structural roots of the problem and does no more than to foster the illusion that something is being done when in reality nothing or very little is being accomplished.

As applied to any social system progressive status-quoism is most likely to occur when a conflict exists between ultimate value commitments and the personal interests of a large number of people. When, for example, the values demand equal economic opportunity for everyone, those who benefit from limiting employment opportunities of others may experience psychic and moral tension. This tension can be excruciating. Personal interest is a most powerful determinant of behavior; yet to persist in behaviors which sustain self-interest (i.e., exclusion from employment), but violate basic values (i.e., equal opportunity) creates a continual state of defensiveness. The problem becomes one of serving one's interests by continuing to withhold jobs from certain individuals while at the same time freeing oneself of the censure resulting from such behavior.<sup>1</sup> The solution is to be found in progressive status-quoism where, by supporting efforts which seem to address the problem of inequality of opportunity but which in their conception and execution do not threaten acts of limitation and exclusion. Those who profit from such behavior can create the illusion of reform and thus relieve their psychic and moral tension.

Progressive status-quoism is, however, inherently unstable. In fact, the status-quo cannot be maintained by means of such social legerdemain. Progressive status-quoism is a prologue to a value change in the system which in the future will legitimize the deviant interests of the present. Since the efforts at reform are illusory, there will of course be no real change in the problem condition. For example, if there is no real expansion of opportunities for those previously excluded, their living conditions will not change markedly. In such a circumstance one might expect the eventual return of moral tension because the illusion of reform has been shattered. Quite to the contrary, another outcome is possible. After supporting "reform" efforts and perceiving no real change, it becomes possible to conclude that "nothing can be done," that those who are victimized are legitimately victimized because in one way or another they are incorrigible or beyond anything but custodial attention. In such a case it would then be possible to create a final justification for the exclusion of a given group without recognizing the moral culpability of those who have been taking advantage of them. The defining

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<sup>1</sup> Note: Such censure can have both external and internal sources. On the one hand there is likely to be continuing criticism and pressure on the part of activists who take equal opportunity seriously as a value. On the other hand, those who arbitrarily exclude others from employment are likely to have internalized the value of equal opportunity which their behavior violates. They are thus likely to generate their own censure in the form of guilt feelings.

values would be changed--if ever so slightly--to allow for the limitation and exclusion of identifiable groups because "all that can be done has been done."

Such a state of affairs must itself generate increasing conflict in society. Those who are "legitimately" excluded are hardly likely to accept their fate. More alienated from the society than ever, distrustful of "moderate reform," they and those who sympathize with them are likely to embrace revolt and insurrection as the means to press their claims to equality. (In the case cited to equality of economic opportunity!) The revolt of a minority in turn is likely to evoke suppression on the part of agents of the challenged majority. The result can only be calculus of estrangement having its source in the delusiveness of progressive status-quoism.

As noted above, the authors of this report see technical emphasis in educational reform directed toward the dispossessed of this society as a case or symptom of progressive status-quoism. The educational problems of the poor--both black and white--are created and sustained in the community and kinship contexts of their lives. They are the superfluous people of our land, the victims of efficiency mores and hard-rock prejudice. There are many among us who benefit from this victimization but they do so in violation of the basic humaneness of what Gunnar Myrdal has called the American Creed. In order to relieve the moral tension attendant upon this contradiction they support--along with others whose motives are more admirable--reform programs in education which in their emphasis on cognitive manipulation and skill solely within the classroom context, leave untouched the sources of educational difficulty.

If the sources of difficulty are the victimizing social processes of the American community then classroom-bound educational innovation must fail. Having supported such innovation, having put so much effort into it, we run the risk of reading its failure to mean there is nothing which can be done. If we do this--and some have already begun to suggest that we can do little more for black children than to prepare them for manual labor--we will be assenting to and legitimating the continual victimization of millions of people--many of whom will not forget that those who professed friendship and concern did indeed forsake them. Technical emphasis creates an illusion which in its ultimate demise can only hurt the possibilities for viable reform. By its practice we contribute to a growing potential for disorderly as opposed to orderly change--for insurgency as opposed to collaboration....perhaps for revolution.

We know these are strong words. We feel, however, that the time is short and that educators and others involved in similar efforts no longer have the right to indulge their professional



biases. The question is not one of what curriculum to adopt and how to train teachers in its use. It is time for us all, educators, social scientists, and social technocrats to face up to the need for structural change in American society. It is time for us all to stop creating the technical myth which must ultimately devour us all.

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## Appendix A

### Questions Pertaining to Relatives

The procedures for data collection in the kinship study were based on the assumption that three interviews would be required for each respondent. The first interview was intended to cover (1) purpose and procedures of the interviews in the study, (2) nuclear family relations, (3) questionnaires pertaining to children, (4) a listing of relatives to be discussed in subsequent interviews, and (5) the Torgoff developmental timetable. The second and third interviews covered (1) information about living relatives included on the extended-family form completed during the first interview, (2) information on deceased relatives on the extended-family form, and (3) for each living relative, 12 items pertaining to attitudes and interaction.

The descriptions of the interviews in this appendix include primarily those items for which responses were utilized in the data analysis in this monograph. There are other sections, mainly dealing with childrearing practices, assistance by relatives in caring for children, and information on deceased relatives. The information in this appendix is a collation of questions from the interview form and directions in the interviewer guide. The format of interview form has been modified in order to indicate the special instructions in the interviewer guide. Four sections of the interview are presented: (a) nuclear family relations, (b) extended family control form, (c) contemporary relatives sheet, and (d) the 12-item sheet.

#### NUCLEAR FAMILY RELATIONS

##### 0. Preliminaries

First, I am going to ask some questions about your own family.

##### #1. How many children do you have?

- a. Write in number -- including natural, adopted, step and dead.
- b. If more than 8, write additional names on bottom of first page and on back of that sheet.



2. What are their names?

If at all unsure, ask for spelling.

#3. How old are they?

a. Age as of last birthday.

b. If child dead, ask: When born and when died; get birth order. (Record either in name space or at bottom of page.) Record (D) after name.

#4a. Are they all in school?

Transitional question. If no, why not? Record all responses except too young.

#4b. What grade are they in?

a. Record current grade.

b. If child has been in school but not now, record last grade with reason for leaving school (either at bottom of page or on back of sheet).

c. If the child is of school age and not in school, note what he (she) is doing.

#5a. Was any of them named after anyone in particular?

a. Note specific genealogical relationship -- fa so, mo br, fa si, wi fa si.

b. If your writing is not clear, spell as much of word as necessary -- son, sis.

c. If in doubt, check with respondent.

d. If no, draw dash --.

#5b. Are any of these adopted or step-children?

a. Circle Yes or No.

b. If child is adopted or step, put A (adopted) or S (step) in left margin preceding name of child.

#6a. Where were you born?

- a. Obtain city and state in which respondent was born. If respondent brings up point that parents were just visiting this location briefly or born in transit -- record parents' residence at time.
- b. If born in rural area, try to determine location of post office in which parents may have received mail and record this town or city and state and the word (rural) after it.
- c. If foreign country, try to determine name of city, town, or rural region.

#6b. Year of birth?

- a. Wording left to discretion of the interviewer.
- b. Assist respondent if necessary. (E.g., subtract age from 1966.)

#6c. When did you move to C-U?

- a. Record year.
- b. If the respondent has lived in C-U intermittently, record dates of initial and subsequent periods of residence.
- c. If moved around, record dates and locations of previous residences.

#6d. Are you working?

- a. Probe for full or part time. Wording at discretion of the interviewer. If part time, note approximate amount of time.
- b. If the respondent works intermittently, record as Y in the last period of employment has been within the past year.

#6e. (IF WORKING) What do you do?

- a. Try to determine job title and actual duties and responsibilities. This information will enable accurate job classification.
- b. If job may involve supervision of others, try to find out how many persons the respondent supervises (e.g., foreman).

Where do you work?

- a. Try to determine place of employment.
- b. Record whether self-employed or works for someone else.

#6e-2. Do you have any other source of income?

- a. Record all sources of income respondent gives.
- b. We are not asking for amount of income, however, record if respondent volunteers this information.

#6e-3. What other kinds of work have you done in the past?

- a. If possible, get descriptive job title (e.g., washed cars) and company.
- b. From - To; in years unless worked less than a year.

#6f-1. (IF NOT WORKING) What was your last job? When was this?

- a. Determine where respondent was employed.
- b. Determine job title(s) and actual duties and responsibilities. Obtain periods of time respondent worked.
- c. If never worked, so indicate.

#6f-2. What other kinds of work have you done? When was this?

- a. If possible, get descriptive job title (e.g., washed cars) and company.
- b. From - To; in years unless worked less than a year.

#6f-3. What is your present source of income?

- a. Record all sources of income respondent gives.
- b. Again, we are not asking for amount; however, this should be recorded if the respondent volunteers this information.

#7a. How many years of schooling have you had?

- a. Years completed (i.e., if the respondent went to eighth grade but did not complete the year, circle 7).
- b. The respondent may need assistance in computing Jr. High and High School years. Grade school could mean 8 years or less depending upon where the person went to school.

#7b. Trade schools, colleges, degrees, completion.

- a. If respondent has attended a trade school (i.e., a secondary school teaching the skilled trades) or college, record the name of the school.
- b. Circle T or C (Trade school or college) for type of school.

- c. Record kind of training respondent received.
- d. Record length of time respondent attended (e.g., 2(Mo)Yr or 1 Mo(Yr)).
- e. Record whether or not the course was completed and/or the degree given (e.g., completed - BA, completed - Journeyman card - completed - certificate).
- f. If additional information is given, record under comments. If additional training did not include trade school or college, record what is said under comments. (e.g., The girl who had the job before I did, taught me bookkeeping or I became a barber by working with my father in his shop).

#8a. What is your religious preference?

- a. We are asking for denomination (i.e., if respondent's response is Protestant, determine whether the person is Baptist, Methodist, Lutheran, etc.).
- b. If respondent has no religious preference, record none.

#8b. Do you belong to a church?

- a. Ask if he (she) attends a church. Circle Y or N.
- b. If respondent attends a church, record the name of the church.

#9. Are you married?

- a. If the answer to this question is obvious (i.e., the husband or wife is being interviewed at the same time), the interviewer might say something like, "The answer to the next question, are you married, is fairly obvious" and circle Y without asking respondent to answer.
- b. If respondent is not married, determine if he (she) is divorced, widowed, or single and circle DIV WID or S.

#10a. Is your husband living in the home with you?

If the answer to this question is obvious (i.e., the husband or wife is being interviewed at the same time), the interviewer could simply make the statement, "Your husband is living in the home with you" and circle Y.

#10b. (IF HUSBAND NOT LIVING IN HOME) How often do you see him?

- a. If respondent is married but spouse is not living in the home, ask how often spouse is seen.
- b. Use code card "how often you see relatives" (Figure 2 in this Appendix.) Explain the card to the respondent by reading each statement (i.e., A-Every day, B-Several times a week, etc.)
- c. Ask the respondent to give you a letter which corresponds to how often he (she) sees spouse.
- d. Repeat the letter and statement so there is no chance of error.

#11. What was the year of your marriage?

- a. Record year.
- b. Ask year of marriage regardless of present marital status (i.e., divorce, separation or death of spouse).
- c. DK - guess. Record fact that response is guess ("guess").

#12. (IF DIVORCED, SEPARATED, OR WIDOWED) What was the year of divorce (separation, death of your husband)?

- a. Record year.
- b. DK - ("guess").

I would like to ask you a few questions about your husband.

#13. Where was your husband born?

- a. Obtain city in which husband was born. If respondent brings up point that husband's parents were just visiting this location briefly or born in transit -- record his parents' residence at time.

- b. If born in rural area, try to determine location of post office in which parents may have received mail, and record this town or city and state and the word (rural) after it.
- c. If foreign country, try to determine name of city, town, or rural region.

#14. Year of birth?

- a. Wording left to discretion of the interviewer.
- b. If respondent does not know year of birth, ask "How old is he?" and record.

#15a. What does (did) your husband do? How long has he done this?

- a. Try to determine job title and actual duties and responsibilities.
- b. Determine by whom employed (e.g., Magnavox, Shumaker Construction Company, self-employed, etc.).
- c. If job may involve supervision of others, try to find out how many persons the respondent supervises (e.g., foreman).
- d. If DK, record respondent's statement, (e.g., "He doesn't tell me.").

#15b. What (other) kinds of work has he done? When was this?

- a. Try to determine job title and actual duties and responsibilities.
- b. Determine by whom employed.
- c. From - To; In years unless worked less than year.

#15c. Does (did) he have any other source of income?

- a. Record all sources of income given.
- b. We are not asking for amount of income, however, record if respondent volunteers this information.
- c. If farms ask if is a tenant or owns farm.

#16a. How many years of schooling has he had?

- a. This is years completed (e.g., if he quit school when he was in the ninth grade he completed eight years).
- b. Grade school could mean 8 years or less depending upon where he went to school. A respondent's conception of Junior High or Senior High School could also vary. Try to determine actual number of years.

#16b. (PROBE: Trade schools, colleges, degrees, completion)

- a. If he has attended a trade school, (i.e., a secondary school teaching the skilled trades) or college, record the name of the school.
- b. Circle T or C (Trade school or College) for type of school.
- c. Record kind of training he received.
- d. Record length of time respondent attended (e.g., 2 (Mo)Yr or 1 Mo(Yr)).
- e. Record whether or not the course was completed and/or degree given (e.g., completed - BA; completed - journeyman card; completed - certificate).
- f. If additional training did not include trade school or college, record what is said under comments (e.g., "He received some electrical training while in the Navy").

#17a. What is his religious preference?

We are asking for denomination (i.e., if respondent's response is Protestant, determine whether he is Baptist, Methodist, Lutheran, etc.).

#17b. Does he belong to a church?

- a. Ask if he attends a church. Circle Y or N.
- b. If respondent belongs to a church, record the name of the church.



#18. The next questions have to do with people living in your house (apartment) with you. Let's start with the children. Do all of your children live here with you? Any nieces or nephews? Your parents? Brothers or sisters? Any boarders? Anybody I might have missed?

- a. Start with the children and record first names of all persons who are living in the home. Ask entire question.
- b. If someone mentioned is living in the home only part of the year (e.g., Mother lives there 3 months out of each year, or husband's sister lives there during the summer months) record this information under comments.
- c. If one or more children are not living at home, note where he (she) is.

#19. Which of your relatives do you see at least once a week?

- a. Record the first names of all relatives (not living in household) who are seen at least once a week.
- b. Determine and record relationships.

#### EXTENDED-FAMILY CONTROL FORM

This form will be used to determine which relatives will be discussed in the succeeding interviews. It is therefore necessary to obtain an accurate listing of the members of the extended family. You can preface this form by saying that "Now we are going to get a list of the relatives that we will talk about in the next interview. I won't ask you any specific questions about them now. If we get a list at this time, then we will note just which relatives to ask about and we can save a lot of time later."

#1. How many brothers and sisters do you now have?

- a. Have any of your brothers or sisters died?
- b. What are the first names of all of your brothers and sisters? (Including those who died?)

In asking for the first name of all the brothers and sisters, try to get a given name. For example, the respondent may answer "Pat." If he does so, ask "Is that Patrick?" If the respondent gives you a nickname, ask "Is that the name on his birth certificate?"

c. Are there any of these adopted, step, or half brothers?

#2a. Which sister do you see most often or have most contact with?

- a. Often the respondent will say something to the effect that he sees all of his sisters about equally. If you cannot get him to choose one over the others, ask him to pick one at random. If he will not do so, then suggest one.
- b. Try to ascertain whether the individual chosen is an adult. The respondent may provide the name of a sister who is a minor. For the purposes of this study an adult is someone who meets any of the following criteria: Over 16, married, employed full time, or is a parent.
- c. If the respondent has no sisters or brothers, write none in the appropriate blanks. There will then be no doubt that the question was asked and that the respondent has no siblings. NOTE: Similarly, the word none is to be written in any blank where the respondent does not have any relative that he knows of in that category. He may not have a woman or a man cousin, aunt or uncle.
- d. If the relative given is not an adult, write down the name of the relative and in addition obtain the name of an adult relative, in the same category (e.g., an adult brother rather than a brother who is a child). NOTE: Inasmuch as the sheets on contemporary and deceased relatives are meant to be used with adults, adult relatives should be used in every category. When a minor is given, obtain an adult relative in the same category. In these instances, take the name of the minor sibling or cousin and write the name with the word minor in parentheses - (minor) and ask only the front side of the Contemporary Relative sheet.

- #3a. a. Is she married now? (If no, determine whether adult.)  
b. Do you know her husband?  
c. What is his name?

The respondent may answer that he has met the husband but does not know him. As long as the respondent has met the husband or wife of the relative, you can ask the questions on the Contemporary Relative sheet.

- #4a. a. Has your sister \_\_\_\_\_ ever been married before?  
b. Did you know her previous husbands?  
c. What were their names?

- #5b. Which sister do you see next most often or have the next most contact with?

NOTE: Questions #3 and #4 are repeated for all brothers and sisters listed in response to Question #1b.

- #6. a. Does your husband (wife) have any brothers or sisters?  
b. How many does he have?  
c. What are their names?

Determine which are minors.

- #7. a. Have you been married before?  
b. How many times?  
c. What was (were) your former husband's (wife's) name(s)?  
d. Are there any children from your former marriage(s) who are not now living with you? (PROBE: Which marriages?)  
e. Did you know \_\_\_\_\_'s (previous spouse's) parents? Y N (List names.)  
f. (1) Did your (first) former husband (wife) have any brothers or sisters?  
(2) Did you know them? (List names.)

g. (1) Did your (second) former husband (wife) have any brothers or sisters?

(2) Did you know them? (List names.)

#8. a. Do you have any cousins?

b. Which is the woman cousin you know best?

c. Which is the man cousin you know best?

(1) If the names of relatives are not known, then mark DK and the name by which this relative is referred to. For example, Charlie's aunt from Brazil or Uncle Joe's son.

(2) In number 8, Do you have any cousins? Take any cousins that the respondent gives and determine whether they are adults. For example, he may give you a second cousin rather than a first cousin.

#9. Now we come to your parents. What are their first names?

#10. a. Have you ever had any step parents?

b. What were (are) their names?

#11. a. Had you ever lived with anyone besides your parents?

b. What are their names?

c. When was this?

(1) Include in this any individual besides parents or grandparents with whom the individual has lived for more than one month.

(2) Include not only persons or families with whom this individual has lived before marriage but also after marriage. However, in asking for names, ask only for the parent surrogates (substitute fathers and mothers), the landlord or landlady if the individual has been a boarder; or if the household was

very large, only the persons with whom the respondent had most contact. Ordinarily, the person lived with an aunt or grandmother.

(3) If there is a large number of individuals with whom the respondent has lived at different times, try to get the two major persons.

- #12. a. Does your mother have any brothers or sisters?  
b. Which of your mother's sisters do you know best (or see most often)?  
c. Which of your mother's brothers do you know best (or see most often)?
- #13. a. Does your father have any brothers or sisters?  
b. Which of your father's sisters do you know best (or see most often)?  
c. Which of your father's brothers do you know best (or see most often)?
- #14. (IF HAS STEP PARENT)  
a. Does your (current) step parent have any brothers or sisters?  
b. Which of your (current) step parent's sisters do you know best (or see most often)?  
c. Which of your (current) step parent's brothers do you know best (or see most often)?
- #15. Now for your husband's (wife's) parents -- what are their first names?
- #16. a. Has your husband (wife) ever had any step parents?  
Y N  
b. What are their first names?
- #17. a. Has your husband (wife) ever lived with anyone besides his (her) parents?  
b. What are their names?  
c. When was this?

- #18. a. Do you know the name of your mother's mother?  
b. Do you know the name of your mother's father?  
c. Was either of your mother's parents married more than once?  
d. To whom was he (she) married?
- #19. a. Do you know the name of your father's mother?  
b. Do you know the name of your father's father?  
c. Was either of your father's parents married more than once?  
d. To whom was he (she) married?
- #20. a. Do you have any friends you consider "like family"?  
b. What is his (her) name?

On question 20, Do you have any friends you consider "like-family", include only those members of the family to whom the individual feels close. For example, respondent may give a name of a couple but may regard only the husband or only the wife as being like family. If the respondent gives the name of a couple, ask "Do you consider them both as being like-family?"

- #21. (IF NOT MARRIED OR LIVING WITH SPOUSE)
- a. Do you have a boyfriend (girlfriend)?  
b. What is his (her) name?  
c. Do any of your former boyfriends ever visit your children? Which ones?

On question 21, Do you have a boyfriend? the respondent may say I have several. Ask "Is one of them a special boyfriend?" If the answer is yes, take this boyfriend. If no, take the two or three that the respondent regards as the best boyfriends or the ones toward whom she feels closest.

- #22. a. Have we missed any relative toward whom you feel very close or see very often? (PROBE: Baby sitting, refer to Nuclear Family Form)

LET US GO THROUGH THE LIST OF RELATIVES ONCE TO SEE WHICH ONES ARE NO LONGER LIVING.

CONTEMPORARY RELATIVES  
(See Figure 1)

#1. Relationship and name

- a. If relative, enter genealogical relationship as in Figure 1.
- b. Enter first name in space N. (PROBE: given name.)
- c. If friend, enter length of time friend has been known in space R.
- d. If relationship uncertain, enter possible alternatives with ? after each.

#2. What do you call him?

- a. Term of address is sought here -- that is, what the respondent calls the relative when he talks with him. At times, it might be interesting to determine what the term of reference is -- that is, what the respondent calls the relative when he talks about him to others -- for example: Fang, the General, Captain Bligh. But for this study, the term of address is considered as more important.
- b. If the name is the same as in #1N, enter the same name here; do not skip.
- c. If the names given in #1a and #2a are the same, you do not need to ask "May I call him \_\_\_\_\_?" You already have called him that.
- d. If the respondent says, "I don't call him anything when I talk with him," then indicate this in space and call relative either by first name or (if parent or parent-in-law) by relationship -- your father; Martha's father.

Figure 1

CONTEMPORARY RELATIVES - Case #	H	W	Relative #
1. Relationship and name (FRIEND: How long have you known _____?)	R		N
2. a. What do you call him (her)? b. May I call him (her) _____?			
3. How old is _____? (last birthday)			
4. a. Is he (she) married? Y N ? DIV SEP WID S	(STEP) PAR: Is _____ still married to & living with your mother (father)? Y N ?		
b. (If married) How long has he (she) been married?			
c. Has _____ been married before? (PROBE: # of marriages)			
d. (If not now in first marriage) How did _____'s previous marriage(s) end? (PROBE: To whom and when)			
5. Where was _____ born?			
6. a. Where does he (she) live now? b. Do you know the name of the street?			
7. Where has _____ lived most of his (her) life?			
8. How often do you see _____? (Use card)			
9. a. Is _____ working (outside the home)? b. What does he (she) do?  c. Has he (she) always been a _____? (PROBE: What other work has he (she) done?)			
10. a. How much education has _____ had? b. (PROBE: Trade schools, colleges, degrees -- esp. length of courses, and if completed.)		_____ years	
11. What is _____'s religious preference? (PROBE: specific church or denomination)			
12. Is there anything about _____'s life that stands out in your mind -- anything he (she) has done?			
13. SIBLINGS: How close? _____			

OVER - 12 ITEMS

12/10/65



#3. How old is he?

- a. Age at last birthday.
- b. If respondent says, "I don't know" then:
  - (1) Write "doesn't know" or DK followed by a dash.
  - (2) Ask respondent for a range: "Between which ages would you say he is?" and write answer followed by a dash.
  - (3) Ask respondent to guess an age in that range and record this answer, e.g., "about 36".

#4a. Is he married?

- a. Ask question in the way in which you feel most comfortable:
  - (1) Is he married, widowed, separated, divorced or still single?
  - (2) In two stages:
    - (a) Is he married?
    - (b) If yes, then followed by "Is he living with his wife?"
    - (c) If no, then followed by, "Is he still single, or is he divorced or widowed?"
- b. Treat parent-in-law as parent.
- c. Can ask question for grandparent in way similar to parent: "Is \_\_\_\_\_ still married and living together with your grandmother?"
- d. For parents, in-laws, and grandparents, it may not be necessary to ask the complete question for both parents. However, be sure to record the proper response for both parents, etc.
- e. If respondent does not know if relative is married, mark "?".

#4b. How long married?

- a. If "don't know how long" then treat same as don't know response for age in #3 (i.e., DK-range-guess).
- b. If don't know if married, then write response. E.g., "I haven't seen him for 8 years; I don't know if he is married."
- c. If divorced, widowed, ask how long they had been married and when divorce or death of spouse occurred.

#4c. Has he been married before?

- a. Ask regardless of current marital status (unless relative is a child).
- b. Note number of marriages including current marriage (e.g., In 3rd marriage).
- c. If "don't know" record response.

#4d. If not in first marriage.

- a. Write name of person to whom married and dates of marriage(s).
- b. If name is not known, use #1 then dates of marriage, #2 dates of marriage, etc.
- c. If dates are unknown, treat as "don't-know response (i.e., DK-range-guess).
- d. Record how each marriage ended (e.g., Mary - 1930-35, wid./Joan - 1942-51, div.).

#5. Where was he born?

- a. Obtain city and state. If respondent brings up point that relative's parents were visiting this location briefly or that he was born in transit, record parents' residence at time.
- b. If born in rural area, try to determine location of nearest post office and record this town or city and the word (rural) after it.
- c. If foreign country, try to determine name of city, town, or rural region.

- d. If DK, ask if region known: If respondent guesses (e.g., "I think, etc.") record this qualification.

#6a. Where does he live now?

- a. Obtain city and state.
- b. If rural area, try to determine location of nearest town or city in which person may receive mail and record this town or city and the word (rural) after it.
- c. If foreign country, try to determine name of city, town or rural region.
- d. If town is not known, write DK, name of state.

#6b. Do you know the name of the street?

- a. Record the name of the street only. We do not need house address.
- b. If person lives in a rural area, record route number if known or R R - if unknown.
- c. If the respondent does not know the name of the street, record DK.
- d. If the respondent knows only the area (e.g., "Northside"), record that.

#7. Where has he lived most of his life?

- a. This means most of the person's lifetime, not must most of his married life.
- b. Record what is said (e.g., Around Indianapolis, Ind: In the vicinity of Chicago).
- c. If rural area, try to determine location or nearest post office and record this town or city and the word (rural) after it.
- d. If city or town is unknown, record area (e.g., somewhere in Northeastern Minnesota).

#8. How often do you see him? (See Figure 2)

- a. Here you will use the same card previously used in Nuclear Family Relations in asking how often a person helped with the care of the children. (See Figure 2)
- b. Ask the respondent to give a letter, then repeat the letter and statement so there is no chance of error (e.g., That's C - Once a week).
- c. Interviewer and respondent should each have a card to refer to.

#9a. Is he working?

- a. For a woman ask, "Is she working outside the home?" If possibly doing laundry, baby sitting, or typing at home, ask "Any work for others in the home?"
- b. Probe for full or part-time. Wording at discretion of the interviewer. Record approximate length of time if part-time.
- c. If works intermittently, record as "Yes" if the last period of employment has been within the past year.

#9b. What does he do?

- a. Try to determine job title and actual duties and responsibilities.
- b. Try to determine for whom he works. If in business for himself, record this.
- c. If job involves supervision of others, try to find out how many persons he supervises (e.g., foreman).
- d. Try to find out how long he has held his present position.
- e. If respondent does not know what person does, record DK and what is said.

Figure 2

Code for Frequency of Interaction

---

The answers below refer to the questions about how often you see the relative:

- |   |                                     |
|---|-------------------------------------|
| A. Every day                            | G. Once or twice a year             |
| B. Several times a week                 | H. About once every two years       |
| C. Once a week                          | I. About once every three years     |
| D. Several times a month                | J. Less than once every three years |
| E. About once a month                   | K. Never met him (her)              |
| F. Several times a year<br>(3-11 times) |                                     |
-

#9c. Has he always been a \_\_\_\_\_?

- a. Ask for each relative; wording at discretion of interviewer.
- b. If "No", probe for other work he has done.
- c. Note dates, if possible, for work history (last 10 years) - as well as positions, kind of work, etc. If has worked same 10 years, ask last work done longest.

#10. How much education has he had?

- a. This is years completed (e.g., if he quit school when he was a Freshman in High School, he completed 8 years). The respondent may need assistance in computing years.
- b. If he has attended a trade school or college, record name of school, length of course and if completed.
- c. If there are qualifications, note what is said (e.g., She must have gone to teacher's college because she did teach school. Or he was a barber so he had to have some barber's training).

#11. What is his religious preference?

- a. We are asking for denomination (i.e., if respondent gives Protestant as an answer determine whether the person is Baptist, Methodist, Lutheran, etc.).
- b. If respondent does not know the denomination, ask if person attends a specific church and record the name of the church.
- c. If respondent knows the person is a Protestant but does not know denomination or church attended record -- Protestant, DK denomination.

#12. Is there anything about his life that stands out in your mind?

- a. Record what the respondent gives you. If the answer is "No" record this. If it is "No" and then qualified, record "No" and the qualification.

- b. After recording response, probe further on basis of any information previously given in asides to other questions. (E.g., If respondent should mention in answering question (Where was he born? that he was a Cherokee Indian who nearly died of diphtheria - interviewer could remind respondent of that statement).
- c. Take notes and write up immediately after interview.
- d. Do not interrupt respondent to probe.

TWELVE ITEM SHEET  
(See Figure 3)

- #1. On this sheet are twelve statements. The sheet is set up in the same manner as the closeness card we used. You will answer each statement by designating one of the letters, a, b, c, d, e, f, or g that corresponds with your feelings towards \_\_\_\_\_. Let us suppose you have a fictitious brother named "Charlie," I will go through the entire sheet, to help acquaint you with it, using the name "Charlie." Then we will go through it again for your answers on \_\_\_\_\_.

Here the interviewer will go through the entire sheet, giving first the statement on the left hand side and then the statement directly opposite. Repeat the first statement prefacing it each time with a heading (e.g., I definitely would invite "Charlie" to weddings, christenings, etc. (b); More often than not I would invite "Charlie" to weddings, christenings, etc. (c); etc.). Do the same with the opposite statement. The second set of statements and the remainder of the sheet may be presented by a random use of only one preface heading for each set of statements (e.g., Respect "Charlie's" advice, Do not care for "Charlie's" advice -- if you Usually do not care for "Charlie's" advice, you would choose (f). Try to avoid "Charlie," Try to see "Charlie" as often as I can -- if More often than not you try to see "Charlie" as often as you can, you would choose (e), etc.)

Ask the respondent to first decide on which side he wants to answer, then to decide how definite he feels about each statement.

Figure 3

Relative # \_\_\_\_\_ H W

Case # \_\_\_\_\_

NAME OF RELATIVE: \_\_\_\_\_

Relationship: \_\_\_\_\_

	<u>Definitely</u>	<u>Usually</u>	<u>More Often Than Not</u>	<u>Not Sure (50-50)</u>	<u>More Often Than Not</u>	<u>Usually</u>	<u>Definitely</u>	
1. Would invite him to weddings, christenings, etc. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Would not invite him to weddings, etc.
2. Respect his advice. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Do not care for his advice Try to see him as often as I can
3. Try to avoid him. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	
4. Can count on his help if I need it. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	He would avoid helping me Would go out of my way to help him
5. Would not help him if he asked. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Do not feel close to him
6. Feel close to him. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	I don't care what he thinks of me
7. What he thinks of me is important to me. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Sets a good example for children
8. Does not set a good example for children. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Would not tell him my problems
9. Would tell him my problems. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Get along with him
10. Do not get along with him. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Do not feel free -- but feel inhibited and self-conscious with him
11. Feel free to joke or have fun with him. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	Has not played an important part in my life
12. Has played an important part in my life. ....	<u>a</u>	<u>b</u>	<u>c</u>	<u>d</u>	<u>e</u>	<u>f</u>	<u>g</u>	

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- #2. This sheet is administered for all Contemporary Relatives who are adults. Do not ask these questions for minors.
- a. For purposes of this study, an adult is someone who is aged over 16, married, holding a full time job or is a parent.
  - b. Explain sheet to respondent as in Figure 3.
  - c. The interviewer should not attempt to explain any of the statements themselves since the answers could be biased by the explanation. Instead, the interviewer should determine what the question means to the respondent. For example:  

R: What do you mean by played an important part in my life?

I: If you tell me what it means to you, I'll make a note of it. Then we know how to interpret your answer.
  - d. In questions dealing with advice, help, or telling relatives about problems, suggest that the respondent think of serious and important problems (and not just day-to-day problems).
  - e. The respondent may complain that the situation has never come up. (For example, needing help, asking advice, invite to weddings.) In that case, ask him to guess what he would do.
  - f. There are two kinds of items in the list -- attitudes and activities. Thus, for several items, "definitely" may not describe the extreme statement as well as "always." If the respondent has trouble in this respect, suggest that he think of "always" instead of "definitely" in those instances.
  - g. The first 12 Item Sheet should be read to the respondent and filled out by the interviewer. From then on the sheet can be filled out by the respondent if he wishes and is sufficiently literate.
  - h. All completed sheets should be placed out of sight so the respondent cannot refer back to them.

Appendix B

Kinship Characteristics

Table 1

Participation in Kinship Study by Parents  
of Children Attending Preschools

Extent of Participation	Fathers	Mothers	Total
Number of parents with children in preschools	235	279	514
Unable to contact (e.g., incorrect name or address; left city)	29	18	47
Total number contacted	206	261	467
Number contacted but declined to participate	(44)	(23)	(67)
Reasons given for declining:			
a. Leaving city imminently	9	8	17
b. Too busy	24	9	33
c. Negative reason or no reason given for refusal	8	4	12
d. Miscellaneous reasons for refusal	3	2	5
Number who completed at least one interview	162	238	400
Number of completed series of interviews	157	238	395
Per cent completions of total contacted	76.1%	91.2%	84.6%

NOTE: The participants represent 239 families; in one family the father but not the mother participated.

Table 2

Degree of Closeness and Terms of Address Used  
for Parents-in-Law, by Socioeconomic Status,  
White Respondents

Degree of Closeness	Per Cent Using Term			
	High		Low and Middle	
	<u>Socioeconomic Status</u> Kin term	<u>Socioeconomic Status</u> First name	<u>Socioeconomic Status</u> Kin term	<u>Socioeconomic Status</u> First name
<b>Male Respondents</b>				
<u>Mother-in-law</u>				
Definitely close	50%	8%	27%	39%
Usually or More often than not close	38	65	40	48
Not sure or not close	12	27	33	13
N	(26)	(26)	(15)	(31)
<u>Father-in-law</u>				
Definitely close	50	10	27	28
Usually or More often than not close	44	65	36	36
Not sure or not close	6	26	36	36
N	(18)	(31)	(11)	(25)
<b>Female Respondents</b>				
<u>Mother-in-law</u>				
Definitely close	36	47	26	36
Usually or More often than not close	48	26	59	33
Not sure or not close	17	26	15	31
N	(42)	(19)	(27)	(36)

Table 2 (continued)

Degree of Closeness and Terms of Address Used  
for Parents-in-Law, by Socioeconomic Status,  
White Respondents

Degree of Closeness	Per Cent Using Term			
	High Socioeconomic Status		Low and Middle Socioeconomic Status	
	Kin term	First name	Kin term	First name
<b>Female Respondents</b>				
<u>Father-in-law</u>				
Definitely close	40%	18%	8%	32%
Usually or More often than not close	29	31	72	52
Not sure or not close	31	50	20	16
N	(35)	(16)	(25)	(25)

NOTE: The use of kin terms of address by Negro respondents differed somewhat from those of whites, especially in the use of formal terms of address. Inasmuch as the number of married Negroes in the sample was small, their data were not included in the table.

Table 3

Degree of Closeness to Lineal Relatives in Ascending  
Generations When Parents Have Been Divorced, for  
Low and Middle Socioeconomic Status,  
Negro and White Respondents Combined  
(Per Cent)

Relative Rated and Marital Status of Parents	"Definitely" Close	"Usually" or "More often than not close	"Not sure" or not close	Total N
<b>Mother</b>				
Parents still married	79%	19%	2%	138
Parents divorced	86	8	6	36
<b>MoMo</b>				
Parents still married	54	35	11	37
Parents divorced	58	25	17	12
<b>MoFa</b>				
Parents still married	53	23.5	23.5	17
Parents divorced	57	29	14	7
<b>Father*</b>				
Parents still married	72	23	5	104
Parents divorced	15	33	52	33
<b>FaMo</b>				
Parents still married	42	37	21	19
Parents Divorced	28	36	36	14
<b>FaFa</b>				
Parents still married	25	37.5	37.5	8
Parents divorced	11	44	44	

\* Kolmogorov-Smirnov test; parents married versus parents divorced;  
2 d.f.;  $\chi^2 = 6.00$ ;  $p = .05$ .

Table 4

Degree of Closeness to Uncles and Aunts When Parents  
Have Been Divorced, for Low and Middle Socioeconomic  
Status, Negro and White Respondents Combined  
(Per Cent)

Relative Rated and Marital Status of Respondent's Parents	"Definitely" Close	"Usually" or "More often than not close	"Not Sure" or not close	Total N
<b>FaBr</b>				
Parents still married	25%	37.5%	37.5%	72
Parents divorced	5	47	47	19
<b>FaSi</b>				
Parents still married	24	43	33	82
Parents divorced	26	40	34	35
<b>MoBr*</b>				
Parents still married	29	37	34	89
Parents divorced	47	41	12	34
<b>MoSi</b>				
Parents still married	39	35	26	93
Parents divorced	52	30	18	37

\* Kolmogorov-Smirnov test; parents married versus parents divorced;  
 $\chi^2 = 4.76$ ; 2 d.f.;  $.10 > p > .05$ .

NOTE: Kolmogorov-Smirnov tests computed for the following revealed:

Parents married: FaSi versus MoSi; not significant.

FaBr versus MoBr; not significant.

Parents divorced: FaSi versus MoSi; 2 d.f.;  $\chi^2 = 4.86$ ;  $.10 > p > .05$ .

FaBr versus MoBr; 2 d.f.;  $\chi^2 = 8.60$ ;  $p = .02$ .

Table 5

Degree of Closeness to In-Laws When EGO Has Been  
Divorced, for Low and Middle Socioeconomic Status,  
Negro and White Respondents Combined  
(Per Cent)

Relative Rated and Marital Status of Respondent	"Definitely" Close	"Usually" or More often than not close	"Not Sure" or not close	Total N
<b>HuSi</b>				
EGO still married	40%	37%	23%	138
EGO divorced	11	30	59	71
<b>HuBr</b>				
EGO still married	23	39	37	137
EGO divorced	5	32	63	41
<b>HuMo</b>				
EGO still married	45	35	20	80
EGO divorced	19	36	45	31
<b>HuFa</b>				
EGO still married	30	49	21	61
EGO divorced	4	40	56	25

Table 6

Terms of Address Used by Negro Women for  
Paternal and Maternal Grandparents

Term of Address	Father's Parents	Mother's Parents	Total
Grandmothers:	FaMo	MoMo <sup>d</sup>	
<u>Both Grandmothers Known<sup>a</sup></u>			
Grandmother (or equivalent) <sup>b</sup>	12	6	18
Mother (or equivalent) <sup>c</sup>	5	10	15
<u>One Grandmother Known</u>			
Grandmother (or equivalent) <sup>b</sup>	3	11	14
Mother (or equivalent) <sup>c</sup>	1	5	6
Total	21	32	53 <sup>e</sup>
Grandfathers:			
<u>Both Grandfathers Known</u>			
Grandfather (or equivalent)	11	7	18
Father (or equivalent)	2	6	8
<u>One Grandfather Known</u>			
Grandfather (or equivalent)	3	8	11
Father (or equivalent)	2	5	7
Total	17	26	43

<sup>a</sup>Gamma for terms of address as related to FaMo and MoMo when both grandmothers known is .60.

<sup>b</sup>Includes such terms as Gramma, Grandma, Granny, or last name of grandmother.

<sup>c</sup>Includes such terms as Ma, Mummy, Mom, or first name.



Table 6 (continued)

Terms of Address Used by Negro Women for  
Paternal and Maternal Grandparents

<sup>d</sup>Gamma for terms of address of MoMo when both are known versus only MoMo known is .57.

<sup>e</sup>In nine cases grandfather remarried and both grandmother and step-grandmother included in analysis. Only 15 grandmothers or step-grandmothers alive at time of study.

Table 7

Knowledge about Occupations of Male Relatives, Aged 25-59,  
Outside Family of Procreation, Male and Female Respondents  
Combined, by Socioeconomic Status, Race, and Frequency  
with which Relative is Seen

Frequency with which Relative Seen	Per Cent for Which Occupation Known by Respondent		
	Low SES	Middle SES	High SES
<b>Relative Seen at Least Once a Week</b>			
<u>White</u>			
Per Cent	84%	97%	100%
Total N	(32)	(32)	(16)
<u>Negro</u>			
Per Cent	83	87	--
Total N	(75)	(13)	--
<b>Relative Seen Less than Once a Week but at Least Several Times a Year</b>			
<u>White</u>			
Per Cent	92	94	91
Total N	(49)	(140)	(161)
<u>Negro</u>			
Per Cent	69	64	91
Total N	(49)	(28)	(11)

Table 7 (continued)

Knowledge about Occupations of Male Relatives, Aged 25-59,  
Outside Family of Procreation, Male and Female Respondents  
Combined, by Socioeconomic Status, Race, and Frequency  
with which Relative is Seen

Frequency with which Relative Seen	Per Cent for Which Occupation Known by Respondent		
	Low SES	Middle SES	High SES
Relative Seen from Once or Twice a Year to about Once Every Three Years			
<u>White</u>			
Per Cent	77%	88%	94%
Total N	(43)	(123)	(250)
<u>Negro</u>			
Per Cent	65	78	--
Total N	(68)	(18)	--
Relative Seen Less than Once Every Three Years			
<u>White</u>			
Per Cent	67	70	79
Total N	(30)	(57)	(82)
<u>Negro</u>			
Per Cent	37	--	--
Total N	(87)	--	--

NOTE: Percentage computed only where total N exceeded 10.

Relatives included in this table are: MoBr, Fa, FaBr, SiHu, Br,  
WiBr, HuBr, and HuFa.

Table 8

Family Characteristics and Increase in Child's IQ  
from Age Four to Age Seven

Family Characteristics	Mean Increase in IQ	N
<b>Race</b>		
White	9.6	17
Negro	6.5	31
<b>Household Composition</b>		
Mother only adult	5.6	20
Other adult in addition to mother	9.0	28
<b>Marital status of Mo</b>		
Married and living with husband	8.8	24
Divorced, separated or never married	6.6	22
Widowed	3.5	2
<b>Number of daughters in family</b>		
None or one	10.1	16
Two	8.1	15
Three or more	4.8	17
<b>Total number of children</b>		
Two or three*	8.2	17
Four or five	10.8	16
Six or more	3.5	15

\* Because families were selected for preschool program from school records indicating the presence of a preschool child in the home, there were no families with one child.

Table 9

Age Means on Parental Developmental Timetable for Items  
 Pertaining to Teaching the Young Child to Accept Responsibility  
 (By Child's Sex, Race, and Socioeconomic Status)

Race, Sex, and SES	26. Keep room tidy	17. Accept postponement	18. Take bath alone
<u>WHITES (Boys)</u>			
Low SES	5.39	5.53	6.00
Middle SES	3.96	4.15	5.38
High SES	4.35	4.23	5.32
<u>NEGROES (Boys)</u>			
Low SES	6.03	6.10	6.48
Middle SES	5.24	5.88	5.94
<u>WHITES (Girls)</u>			
Low SES	5.29	5.50	5.95
Middle SES	3.81	4.12	5.33
High SES	4.27	4.11	5.22
<u>NEGROES (Girls)</u>			
Low SES	5.90	6.09	6.38
Middle SES	4.88	5.82	5.94

Table 10

Age Means and Variances on Parental Developmental Timetable for Item 45, the Appropriate Age to Teach Hiding Nudity from Strangers, and Item 35, Appropriate Age for Sexual Segregation in the Toilet (By Child's Sex and the Race and Socioeconomic Status of Respondents)

Race, Sex, and SES	Nudity		Sexual Segregation	
	Mean Age	Variance	Mean Age	Variance
<u>WHITES (Boys)</u>				
Low SES	3.29	1.45	4.34	1.58
Middle SES	3.73	6.10	4.79	2.30
High SES	4.20	9.36	5.80	8.48
<u>NEGROES (Boys)</u>				
Low SES	3.34	1.37	4.07	2.55
Middle SES	3.41	1.76	4.35	1.49
<u>WHITES (Girls)</u>				
Low SES	3.21	1.25	4.24	1.27
Middle SES	3.71	6.01	4.76	2.36
High SES	4.19	9.48	5.75	8.55
<u>NEGROES (Girls)</u>				
Low SES	3.25	1.77	4.03	2.46
Middle SES	3.35	1.37	4.24	0.94

Appendix C

Sample Characteristics

Table 1c

Formal Education of Respondents, by Sex and Socioeconomic Status  
(Per Cent)

Kind of Schooling Completed	Total Years of Schooling Completed	Socioeconomic Status		
		Low	Middle	High
Women Respondents				
Elementary	5-8 years	19.7%	2.4%	--
Some high school	9-11	39.4	4.8	1.2%
Completed high school	12	29.6	33.3	10.8
Some college	12-15	5.6	23.8	27.7
College graduate	16	--	19.0	30.1
Some graduate work	17-19	5.6	15.5	27.7
Advanced graduate work	20 or over	--	1.2	2.4
Total number		71	84	83
Men Respondents				
Elementary	5-8 years	25.0	--	--
Some high school	9-11	29.2	1.6	--
Completed high school	12	33.3	13.1	4.2
Some college	13-15	8.3	13.1	1.4
College graduate	16	4.2	14.8	12.5
Some graduate work	17-19	--	29.5	38.9
Advanced graduate work	20 or over	--	27.9	43.1
Total number		24	61	72

Table 1d

Religious Identity of Respondents, by Sex and Socioeconomic Status  
(Per Cent)

Religion Reported	Socioeconomic Status					
	Women Respondents			Men Respondents		
	Low	Middle	High	Low	Middle	High
Catholic	5.5%	20.2%	15.7%	4.2%	13.1%	15.3%
Jewish	--	4.7	4.8	--	6.6	6.8
Protestant	(88.9)	(60.8)	(56.6)	(87.6)	(67.2)	(55.6)
No denomination given	2.8	4.8	4.8	12.5	4.9	4.2
Episcopalian	2.8	2.4	4.8	4.2	3.3	6.9
Congregational	1.4	1.2	4.8	--	1.6	5.6
Presbyterian	1.4	9.5	14.5	--	18.0	12.5
Methodist	21.4	22.6	13.3	16.7	21.3	15.3
Lutheran	1.4	2.4	8.4	--	8.2	6.9
Christian; Church of Christ; Disciples of Christ	5.6	2.4	1.2	--	--	1.4
Baptist	46.5	9.5	3.6	50.0	6.6	2.8
Other Protestant denominations and sects	5.6	6.0	1.2	4.2	3.3	--
Non-Protestant and Non-Christian religions or denominations	2.8	8.2	7.2	--	4.9	4.2
Atheists and Agnostics	2.8	6.0	15.7	8.3	8.2	18.1
Total Number	71	84	83	24	61	72



Table 1e

Place of Birth of Respondents, by Sex and Socioeconomic Status  
(Per Cent)

Place of Birth	Socioeconomic Status					
	Women Respondents			Men Respondents		
	Low	Middle	High	Low	Middle	High
Champaign County	22.5%	13.1%	7.2%	41.7%	13.1%	4.2%
Illinois or Indiana (but outside Champaign County)	23.9	40.5	24.1	8.3	37.7	37.5
Central Illinois (bounding Illinois and Indiana) <sup>1</sup>	5.6	13.1	22.9	--	13.1	11.1
North West Sector of U.S. <sup>2</sup>	--	2.4	2.4	--	--	4.2
North East Sector of U.S. <sup>3</sup>	--	8.3	15.7	4.2	14.8	16.7
South East Sector of U.S. <sup>4</sup>	1.4	1.2	2.4	--	1.6	4.2
Mississippi Valley (on Illinois Central Railroad) <sup>5</sup>	36.6	8.3	2.4	41.7	3.3	4.2
South West Sector of U.S. <sup>6</sup>	7.0	4.8	4.8	--	6.6	4.2
Outside Continental U.S.	2.8	8.3	18.1	4.2	9.8	13.9
Total Number	71	84	83	24	61	72

<sup>1</sup> Central States include Wisconsin, Kentucky, Ohio, Michigan, Missouri, and Iowa.

<sup>2</sup> North West Sector includes Minnesota, Nebraska, North Dakota, Wyoming, Montana, South Dakota, Oregon, Washington, and Idaho.

<sup>3</sup> North East Sector includes Maine, New Hampshire, Vermont, Connecticut, Massachusetts, Rhode Island, New York, Pennsylvania, New Jersey, Delaware, Maryland, District of Columbia.

<sup>4</sup> South East Sector includes West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida.

Table 1e (continued)

Religious Identity of Respondents, by Sex and Socioeconomic Status  
(Per Cent)

<sup>5</sup>Mississippi Valley includes Louisiana, Mississippi, Arkansas, Tennessee, and Alabama.

<sup>6</sup>South West Sector includes Texas, Oklahoma, New Mexico, Arizona, California, Nevada, Kansas, Colorado, and Utah.

Table 1f

Number of Years Prior to Interview that Women Respondents  
Had Moved to Champaign-Urbana, by Socioeconomic Status  
(Per Cent)

Number of Years Residence in Champaign-Urbana	Socioeconomic Status		
	Low	Middle	High
0 - 5 years	17.1%	44.0%	34.9%
6 - 11	27.1	31.0	38.6
12 - 17	15.7	7.1	14.6
18 or over	21.4	6.0	7.2
Born in Champaign-Urbana	18.6	11.9	4.8
Total Number	70	84	83

Table 1g

Age of Respondents, by Sex and Socioeconomic Status  
(Per Cent)

Years of Age	Socioeconomic Status					
	Women Respondents			Men Respondents		
	Low	Middle	High	Low	Middle	High
20 - 23 years	11.3%	8.3%	--	8.3%	1.6%	--
24 - 27	26.8	26.2	8.4	16.7	9.8	5.6%
28 - 31	22.5	32.1	32.5	33.3	34.4	19.4
32 - 35	12.7	13.1	26.5	12.5	21.3	27.8
36 - 39	15.5	6.0	13.3	4.2	21.3	25.0
40 - 43	8.5	10.7	10.8	4.2	6.6	12.5
44 - 47	2.8	3.6	8.4	12.5	3.3	6.9
48 or over	--	--	--	8.3	1.6	2.8
Total Number	71	84	83	24	61	72

Table 1h

Number of Years Married Reported by Women Respondents  
by Socioeconomic Status (Per Cent)

Length of Current Marriage <sup>1</sup>	Socioeconomic Status		
	Low	Middle	High
Not legally married	5.6%	1.2%	--
0 - 3 years	5.6	1.2	2.4%
4 - 7	33.8	41.7	26.5
8 - 11	19.7	33.3	34.9
12 - 15	16.9	9.5	20.5
16 - 19	7.0	8.3	9.6
20 - 23	4.2	3.6	6.0
Total Number	71	84	83

<sup>1</sup>Includes legal separations and second marriages.

Table 1i

Number of Children in Respondents' Families, Reported by Women  
by Socioeconomic Status (Per Cent)

Number of Children	Socioeconomic Status		
	Low	Middle	High
1	7.0%	26.2%	13.3%
2	15.5	41.5	41.5
3	22.5	21.4	27.7
4	12.7	9.5	19.2
5	12.7	3.6	4.8
6 or more	29.6	7.1	2.4
Total Number	71	84	83

Table 1j

Presence of Persons not in Respondent's Family of Procreation  
Living in Home, Women's Responses, by Socioeconomic Status  
(Per Cent)

Presence of Outsiders in Home	Socioeconomic Status		
	Low	Middle	High
None	81.6%	91.7%	92.8%
One or more	18.4	8.3	7.2
Total Number	71	84	83

## Appendix D

### Factor Analysis of Torgoff Developmental Timetable

The Parental Developmental Timetable, developed by Irving Torgoff formerly at the Merrill-Palmer Institute, is useful for determining norms in age-grading. For a list of 48 activities, parents are asked what they "think is the most appropriate age at which boys and girls may be expected to begin to manage different situations." The instructions to the parents cautions them to respond in terms of "what you believe the age should be" rather than "the age at which something actually did occur to a child you know or . . . what you have seen some parents do." The analysis of the Parental Developmental Timetable consisted of a factor analysis and a comparison of mean ages and their variance particularly of items with high loadings on the first factor.

The responses of 397 parents interviewed in the Champaign-Urbana kinship study were submitted to principal axis factor analysis, with a varimax rotation applied to those factors in which the latent root exceeded 1. The data for boys and for girls were submitted to separate analyses. Thirteen factors were included in this rotation for both boys and girls, and of these, six could be interpreted. The seven uninterpreted factors were found to have only one or two items with high loadings following the rotation. The similarity in findings for boys and girls derive from the fact that parents showed sex differentiation in their responses only occasionally.

The items with high loadings on the six interpreted factors are shown in Table D-1. These factors were: (1) the development of a possessive and controlled self, (2) teaching about personal danger, (3) teaching child about care of clothes, (4) teaching child about ethical principles, (5) teaching child about bodily care and concern, and (6) mature financial and social responsibility. These factors together explain 42.2 per cent of the total variance, with the first factor explaining 16.7 per cent, the second an additional 8.9 per cent, and the third factor 5.4 per cent. The first factor seems most relevant for the analysis of age-grade norms as related to kinship, and the remainder of the discussion of findings will be devoted to this factor.

Table D-1

Factor Loadings for Parental Developmental Timetable  
of Responses for Girls and Boys

Factors and Items	Factor Loadings	
	Girls	Boys
Factor I: Appropriate Age to Begin Teaching the Development of a Possessive and Controlled Self		
23. Begin to teach their child that taking something from others -- without permission -- is wrong	.79	.79
27. Begin to teach their child to share his toys	.79	.71
26. Begin to train their child to keep his room tidy	.69	.70
17. Begin to train their child to accept postponement without making a fuss	.69	.69
18. Begin to allow their child to take a bath with no adult supervision	.61	.66
29. Begin to discourage their child from crying over minor disappointments	.64	.51
19. Begin to train their children not to get "make-believe" and "pretend" mixed up with real life	.48	.50
Factor II: Appropriate Age to Begin Teaching about Personal Danger		
36. Begin to allow their child to light a burner on the stove without adult supervision	.73	.67
34. Begin to allow their child to use sharp scissors with <u>no</u> adult supervision	.69	.62



Table D-1 (continued)

Factor Loadings for Parental Developmental Timetable  
of Responses for Girls and Boys

Factors and Items	Factor Loadings	
	Girls	Boys
25. Begin to allow their child to cross busy streets where there is no traffic light or traffic officer	.63	.66
20. Begin to allow their child to remain at home alone during the day, if he wants to	.52	.57
16. Begin to allow their child to sleep overnight at the home of a neighbor friend whose parents they know	.48	.49
38. Begin to teach their child how to use a sharp knife at the dinner table	.45	.43
43. Begin to allow their child to go swimming with a friend of his own age	.44	.40
Factor III: Appropriate Age to Begin Teaching Child about Care of Clothes		
42. Begin to train their child to hang up clothes right after they are taken off	.73	.73
44. Begin to encourage child to dress himself without help	.68	.67
38. Begin to teach their child how to use a sharp knife at the dinner table	.56	.60

Table D-1 (continued)

Factor Loadings for Parental Developmental Timetable  
of Responses for Girls and Boys

Factors and Items	Factor Loadings	
	Girls	Boys
41. Begin to allow their child to choose for himself what clothing he will wear during the day	.53	.52
39. Begin to let their child settle by himself the fights he has with children of the same age and size	.49	.48
Factor IV: Appropriate Age to Begin Teaching Child about Ethical Principles		
40. Begin to teach their child that it is wrong to cheat	.82	.80
8. Begin to teach their child to feel that it is wrong to lie	.81	.80
12. Begin to teach their child that it is wrong to break a promise	.77	.78
Factor V: Appropriate Age to Begin Teaching Child about Bodily Care and Concern		
45. Begin to teach their child not to appear naked in front of strangers	.76	.77
5. Begin to correct their child who messes with his food	.73	.69
35. Begin to teach their child not to enter a toilet when it is being used by a child of the opposite sex	.67	.70

Table D-1 (continued)

Factor Loadings for Parental Developmental Timetable  
of Responses for Girls and Boys

Factors and Items	Factor Loadings	
	Girls	Boys
11. Begin to teach their child not to use their fingers when eating	.48	.42
19. Begin to train their children not to get "make-believe" and "pretend" mixed up with real life	.43	.44
Factor VI: Appropriate Age to Begin to Promote Mature Financial and Social Responsibility		
10. Begin to allow their child to spend money the child earns in any way the child wants even if it seems wasteful to the parents	.68	.53
15. Begin to make their child aware of the cost of objects the child damages	.54	.63
14. Begin to allow their child to go out on a "date" if the crowd of friends will be along	.49	.57

Items with a high loading on Factor 1 seem to be related to the development of possessiveness and internal control in the emergence of a self. The items highly loaded on Factor 1 denote, first, a sense of possession (taking things and sharing toys), second, a sense of responsibility and self-control (keeping room tidy, accepting postponement, and bathing alone), and third, a sense of reality (discourage crying and discerning make believe from reality. It is noteworthy that items pertaining to concepts of personal property and self-control are highly intercorrelated. This correlation implies that the self as an object of one's own actions (i.e., "me") is created out of the concept of personal property (i.e., what is "mine" and "not-mine") and that self-control is a mechanism for protecting this self-property. The roles of possession and responsibility in personal development have been pointed out by several observers. Charles Horton Cooley placed much emphasis upon possessiveness in the development of the self. He associated the sense of "my" with the person's identity--my name, my family, my friends, my property, and so on. On the other hand, Jean Piaget indicated the importance of rules by children as "sacred and obligatory" to be of special importance in their moral development. Piaget regards the development of a sense of duty as a prelude to autonomy.

The remaining five interpreted factors can be regarded as an elaboration of the first factor. They pertain to specific kinds of obligations and responsibilities. Factor 2 has to do with personal danger, Factor 3 with the care of clothes, Factor 4 with learning ethics, Factor 5 with bodily care and concern, and Factor 6 with learning financial and personal responsibility.

The analysis of items in Factor 1 pertains to the means and variances of ages which parents regard as appropriate for children to learn or to be taught various activities. The analysis of means presents a problem of deciding when a difference is meaningful. For younger ages (i.e., to age six or so), differences of about a year will be interpreted as meaningful. The analysis of variances is directly relevant to the decision as to whether or not an age-grade norm exists. When there is a large age variance for a particular item, then apparently no general age-grade is present; a small variance would be taken as evidence of the existence of an age-grade norm in the population. For younger children, arbitrarily, a variance of less than 4, yielding a standard deviation of less than two years, will be interpreted as reflecting the existence of an age-grade norm.

The timing of items in Factor 1 may be relevant to understanding the role of social stratification in self-development. Table D-2 shows that the development of the idea of possession seems to occur at about the age of two or three, regardless of socioeconomic status. Among white children, there is a slight

Table D-2

Age Means on Parental Developmental Timetable for Items in Factor I; Appropriate Age to Begin Teaching the Development of a Possessive and Controlled Self (by Child's Sex, Race, and Socioeconomic Status)

Race, Sex, and SES	23. Do not take things without permission	27. Share toys	26. Keep room tidy	17. Accept postponement	18. Take bath alone	29. Discourage from crying	19. Discriminate "make-believe" from real life
<u>WHITES (Boys)</u>							
Low SES	3.52	2.79	5.39	5.53	6.00	5.39	5.58
Middle SES	3.11	2.66	3.96	4.15	5.38	4.04	4.69
High SES	3.29	2.68	4.35	4.23	5.32	4.30	5.44
<u>NEGROES (Boys)</u>							
Low SES	3.90	3.34	6.03	6.10	6.48	4.69	7.12
Middle SES	3.88	3.41	5.24	5.88	5.94	5.24	6.59

Table D-2 (continued)

Age Means on Parental Developmental Timetable for Items in Factor I; Appropriate Age to Begin Teaching the Development of a Possessive and Controlled Self (by Child's Sex, Race, and Socioeconomic Status)

Race, Sex, and SES	23. Do not take things without permission	27. Share toys	26. Keep room tidy	17. Accept postponement	18. Take bath alone	29. Discourage from crying	19. Discriminate "make-believe" from real life
<u>WHITES (Girls)</u>							
Low SES	3.53	2.76	5.29	5.50	5.95	5.39	5.55
Middle SES	3.10	2.65	3.81	4.12	5.33	4.01	4.70
High SES	3.27	2.64	4.27	4.11	5.22	4.28	5.48
<u>NEGROES (Girls)</u>							
Low SES	3.90	3.31	5.90	6.09	6.38	4.74	7.13
Middle SES	3.82	3.35	4.88	5.82	5.94	5.29	6.47

tendency for the idea of possession to be expected later by low status than middle or high status parents. Negro parents did not show this trend, but generally expected their children to share toys and take things only with permission a little later than white parents.

In spite of the similarity among the different socioeconomic groupings in age at which possessiveness is expected, the extent to which this expectation constitutes a norm differs. The results on age variances are shown in Table D-3. For white parents, there was actually little difference in variances by socioeconomic status. For Negro parents, however, there was a wide discrepancy of variances by socioeconomic status; low status parents had variances of around ten, while middle status parents had variances of about one. The findings relevant to development of responsibility are described in the text.

Table D-3

Variances on Parental Developmental Timetable for Items in Factor I; Appropriate Age to Begin Teaching the Development of a Possessive and Controlled Self (by Child's Sex, Race, and Socioeconomic Status)

Race, Sex, and SES	23. Do not take things without permission	27. Share toys	26. Keep room tidy	17. Accept postponement	18. Take bath alone	29. Discourage from crying	19. Discriminate "make-believe" from real life
<u>WHITES (Boys)</u>							
Low SES	1.77	1.25	4.89	4.09	4.22	3.60	3.33
Middle SES	.85	4.73	2.33	2.31	2.92	6.33	3.94
High SES	1.37	1.03	2.48	3.31	2.94	6.69	15.60
<u>NEGROES (Boys)</u>							
Low SES	10.52	9.91	11.19	12.73	9.66	10.50	12.14
Middle SES	1.61	2.13	4.19	5.49	2.43	5.32	6.38



Table D-3 (continued)

Variances on Parental Developmental Timetable for Items in Factor I: Appropriate Age to Begin Teaching the Development of a Possessive and Controlled Self (by Child's Sex, Race, and Socioeconomic Status)

Race, Sex, and SES	23. Do not take things without permission	27. Share toys	26. Keep room tidy	17. Accept postponement	18. Take bath alone	29. Discourage from crying	19. Discriminate "make-believe" from real life
<u>WHITES (Girls)</u>							
Low SES	1.77	1.16	4.43	4.64	4.05	3.60	3.44
Middle SES	.84	4.71	1.98	2.28	2.84	6.36	3.94
High SES	1.38	.96	2.48	2.53	2.83	6.72	16.20
<u>NEGROES (Girls)</u>							
Low SES	11.01	9.90	11.18	13.20	9.47	10.69	12.40
Middle SES	1.65	2.12	3.61	5.53	3.31	5.97	6.64