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DETERMINANTS OF SELF-ESTEEM: IMPORTANCE,

SATISFACTION, AND SELF-RATING IN SIGNIFICANT AREAS

BY

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B.S., Calvin College, 1975
M.S., University of Illinois, 1979

THESIS

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CHAPTER I

INTRODUCTION

Despite the fact that there have been thousands of investigations involving self-esteem, there has been little attention paid to the careful construction of a theoretically sound measure of self-esteem. The typical study is one that merely uses general self-esteem as one of the measures and seeks to find significant correlations involving self-esteem. Rarely does the study build on the work of previous studies or attempt to delineate the structure of self-esteem. Furthermore, the measures used for self-esteem vary considerably, making cross-study comparisons almost impossible. As a result, hundreds of significant correlations involving self-esteem have been reported (with self-esteem being defined in whatever way the investigator saw fit), yet they have provided practically no further knowledge of the theoretical structure, processes, or determinants of self-esteem.

In her critical review of the self-concept literature, Ruth Wylie (1974) has criticized the haphazard manner in which self-esteem measures have been constructed and used. She states that because self-esteem is so often measured in terms that imply a global acceptance of non-acceptance of

self, it is no wonder that little is known about the theor-
etical structure of self-esteem. Apparently many research-
ers ignore the possibility that people can feel good about
certain aspects of themselves and feel poorly about other
aspects of themselves. This specific information is obscur-
ed when general self-esteem measures are used and thus these
general measures provide little information about the struc-
ture or processes of self-esteem. A more useful approach
would be to measure the subject's self-feelings in regard to
a variety of significant areas, such as home, peer, or
school. As Ruth Wylie states, "it seems plausible that the
more delimited self-evaluative aspects may be theoretically
more appropriate and easier to define verbally and operation-
ally" (p. 320). Nevertheless, in spite of these reasons
there have been very few studies that have used area-specific
self-esteem and fewer still that have done so in a systematic
manner.

Even though some researchers pay attention to the var-
ious areas of self-esteem (such as peer, home, or school)
by including items from each of these areas in their measure
of general self-esteem, they proceed to take the sum of the
scores of these items as a measure of general self-esteem,
and thereby make the implicit assumption that these areas
are of equal importance to each individual. As Wylie (1974)
notes:

No attention is paid to the fact that subjects differ
with respect to the salience of various items in
determining their overall self-conception with respect
to the overall dimension, for example, self-esteem or
dominance. That is, a sum does not take such differ-
ences into account by weighting items differentially
according to their perceived salience for the subject.
(p. 48)

A similar fact that is often neglected by researchers is
that groups such as blacks and whites or males and females
may well differ on the importance that they place on the
different areas that contribute to self-esteem. It would
appear, then, that a well-constructed self-esteem measure
should take into account the role of importance in deter-
mining self-esteem.

In addition to the typical weaknesses mentioned above,
there is the almost universal tendency for researchers in
this field to examine the sample at only one point in time,
thus eliminating possibilities for instrument improvement,
detection of self-esteem changes, or determination of
causal effects. Wylie also notes this tendency and states:

Many researchers (especially doctoral candidates) who
use self-concept variables in their studies are doing
what will remain "one-shot" investigations. This
situation multiplies research output but does not

yield the needed programmatic approach to instrument
development. (p. 328)

Obviously, there is a need for studies to build on the
results of previous research, and more importantly, for
studies to follow self-esteem changes in the same group
of subjects over a period of time.

In summary, then, there are three aspects of self-
esteem measurement and theory that are in need of system-
atic research: measurement of area-specific self-esteem,
measurement of the importance of these areas to the indiv-
idual or group, and repeated measurement of a sample to
determine self-esteem changes and causal relationships.
Unless these areas are investigated further, the structure,
processes, and implications of self-esteem will continue to
remain in their present muddled state.

In addressing the problems mentioned above, this in-
vestigation will focus on four general issues, namely:

(1) Are there significant race, sex, social class, or
age differences on the importance of certain areas?

(2) What, if any, is the relationship between the im-
portance of an attribute or event and the emotional reactions
connected with it?

(3) Is there substancial evidence indicating causality
in relationships involving school self-esteem or self-
concept of academic ability?

(4) What are the relationships between self-esteem, importance, and self-ratings in areas of experience, and how do these contribute to general self-esteem?

It is hoped that the answers to these questions will provide a clearer understanding of the structure and processes of self-esteem, as well as suggest avenues for further research.

CHAPTER II

REVIEW OF THE LITERATURE

Specific Areas of Self-Esteem

Out of the hundreds of investigations of sëlf-esteem
there have been few that have focused on specific areas of
self-esteem even though, in the long run, this may prove
to be a more fruitful area of research than general self-
esteem. Why these specific areas of self-esteem (such as
home, peer, and school self-esteem) have been neglected is
difficult to explain. Perhaps one reason is that the con-
clusions of Coopersmith (1967) have been instrumental in
discouraging such research:

> We decided to include questions from several different
>
> areas of activity in our test of subjective self-
>
> esteem and determine the extent to which the apprais-
>
> als for different areas differed. We therefore in-
>
> cluded statements relative to school, family, peers,
>
> self, and general social activities. Analysis of the
>
> test of 56 children (aged 10 to 12) failed to reveal
>
> significant differences between the self-appraisals
>
> advanced for the different areas of experience. This
>
> suggests that either preadolescent children make
>
> little distinction about their worthiness in different

areas of experience or, if such distinctions are made, they are made within the context of the over-all, general appraisal of worthiness that the children have already made. (p. 6)

Another reason seems to be that none of the studies on the popularly used self-esteem scales have satisfactorily shown the construct validity of area-specific self-esteem. For example, Dyer (1964) used multitrait multimethod analysis to investigate Coopersmith's Self-Esteem Inventory but failed to show construct validity for the sub-areas. Kokenes (1974) factor analyzed the Self-Esteem Inventory and although she found factors relating to each of Coopersmith's sub-scales, a considerable number of Coopersmith's items did not load significantly on the appropriate factors. Even for the more general and non-evaluative construct of self-concept the results are inconclusive. Shavelson, Hubner, and Stanton (1976), in their review of several self-concept instruments and their construct validity, concluded that there is only tentative evidence for the construct validity of area-specific self-concept. Similarly, Winne, Marx, and Taylor (1977) investigated the Gordon, Piers-Harris, and Sears self-concept scales and concluded that since the sub-scales (physical, social, and academic) yielded such similar results, their use would likely lead to misinterpretation. Thus, although some evidence seems to indicate the existence

of area-specific self-esteem, it is far from being clear-cut. It would seem, then, that if children do distinguish between areas of experience the popularly used instruments are not quite suited to measure such distinctions.

In response to this problem, Hare (1975) developed a scale specifically designed to measure home, peer, and school self-esteem. He argued that instruments such as Coopersmith's fail to differentiate between these areas because, among other things, items relating to different areas of experience are intermixed and thus the context of each statement is not emphasized. By grouping similar items together and emphasizing their context (home, peer, or school) Hare has devised a scale which, he contends, is more suited for the measurement of area-specific self-esteem. In addition, Hare pointed out that Coopersmith may have failed to find differentiation between these areas because of the limited nature of his white middle class sample.

Evidence that Hare did indeed devise a suitable scale was given by Shoemaker (1980), who factor analyzed the Hare Self-Esteem Scale and found support for the construct validity of the home, peer, and school self-esteem subscales. In this case all of the items loaded significantly on the appropriate factors and the subscales related to associated measures in the expected manner. It is important to note that the sample used in the construct validity study consis-

ted of fifth grade students representing all race, sex, and social class groups.

Given that there is support for the construct validity of home, peer, and school self-esteem, the next step is to determine whether the self-esteem areas can be further delimited. One way to accomplish this would be to focus on those specific abilities or attributes which are most important to the subjects under study (young adolescents in this case). McCandless (1970) reports the following are ranked high in importance among adolescents: intellectual competence, physical attractiveness, physical skills, and popularity. Yet although these attributes may be major determinants of self-esteem, they do not touch on feelings of intrinsic worth which are primarily derived from affection from family and friends. Hollender (1972) points this out by noting that there are two different kinds of self-esteem arising from two different types of positive experience--affiliation and status. Empirical support for the existence of these two distinct sources of self-esteem is given by Franks and Marolla (1976) and Gecas (1971), who used factor analysis to show the existence of two distinct factors corresponding to these sources. Thus any self-esteem instrument designed to further elucidate the underlying processes involved in self-esteem would benefit from including items relating to status (such as the areas

described by McCandless) as well as items relating to affiliation (such as parental support, peer support, or teacher support).

The Role of Importance

As Wylie (1974) has pointed out, researchers have paid almost no attention to the fact that individuals differ with respect to the importance that they place on the various attributes that contribute to overall self-esteem. To date only four studies have incorporated importance variables into their self-esteem measures. Pervin and Lilly (1967) asked their respondents about the importance of various areas, but they used this information as a blocking variable for social desirability comparisons rather than for construction of a more valid self-esteem measure. Sherwood (1967) used importance variables as weighting factors for various areas of self-concept in determining overall self-esteem for each individual. Likewise, Watkins (1978) employed importance variables in assigning weights to the various areas of self-concept. (It should be noted here that self-concept refers to people's views or self-ratings of themselves, whereas self-esteem refers to their feelings of satisfaction or self-worth resulting, in part, from these views.) Watkins' weighting method involved multiplying the score on each area self-rating by

the relative importance of that area, and summing these across areas to derive a total self-esteem score:

$$\text{total self-esteem} = \frac{\sum_{a=1}^{n} (\text{self-rating}_a) * (\text{importance}_a)}{\sum_{a=1}^{n} \text{importance}_a}$$

However, even Watkins concedes that:

> Rating scales such as the above are admittedly rather
> crude measuring devices. Thus this measure of self-
> esteem, involving as it does multiplication and
> division of ratings, can be legitimately criticized
> because such arithmetic operations require the assump-
> tion of ratio measurement. (p. 174)

In addition to this problem, Watkins reports that the cor-relation of this weighted measure with one of his non-weighted self-esteem measures was -.40, and the test-retest reliabilities were .50 and .86, respectively. Thus Watkins' study, as well as those of Pervin and Lilly and Sherwood, give no empirical evidence supporting the use of importance variables as weights in determining self-esteem. Fortunate-ly, however, Rosenberg's (1965) work with importance vari-ables has uncovered some key concepts.

Although Rosenberg did not use importance variables as weights, he did investigate several importance variables in depth as well as discover their relationships to general self-esteem. He referred to these importance variables as

"self-values" and they included such aspects as the impor-
tance of being a good student, being well-liked, being
intelligent, being honest, being friendly, and being a
good athlete. In addition to measuring these self-values
and general self-esteem, he also asked the subects about
their self-estimates (or self-ratings) in each of the areas
corresponding to the self-values. He found that

> In addition to academic success, we examined the re-
> lationship of self-estimates to self-values for the
> 16 most highly valued qualities. In every case, the
> results were the same; people who felt they excelled
> at a quality were more likely to value it and those
> who valued it were more likely to believe they ex-
> celled at it. (p. 250)

Rosenberg also examined how the self-values in (or impor-
tance of) these areas affected general self-esteem. Con-
sidering only those subjects who rated themselves as rela-
tively poor in terms of these qualities, he found that

> ...with regard to 15 of these 16 qualities, those
> who highly valued these qualities were more likely to
> have low self-esteem than those who cared little about
> these qualities. For example, 50 percent of those who
> thought they were not likeable, but who cared about it,
> had low self-esteem, compared with only 19 percent of
> those who thought they were not likeable, but did not
> care about it. (p. 248)

It should be noted, however, that because of the small
number of subjects who rated themselves poorly, only 5 of
these areas showed a significant relationship between self-
esteem and importance.

Rosenberg also attempted to determine the relationships
between importance, self-rating, and self-esteem when con-
sidered concurrently. This was done only on the quality of
"being likeable", and in that case he found that the rela-
tionship of self-rating on this quality to overall self-
esteem was greater among those who cared about this quality
than among those who did not. Unfortunately, one problem
with this was that the difference in the relationships did
not turn out to be statistically significant (due mainly to
the low number of subjects ranking themselves as "little or
not at all" likeable). Additionally, it is unfortunate that
Rosenberg merely dichotomized the importance variable (into
those who "care a great deal" versus those who "care some-
what, little, or not at all"); by doing so he obscured
potentially useful information about the manner in which
importance interacts with self-ratings or self-esteem.

In summary, then, several points are noteworthy.
First of all, a few studies have incorporated important
measures into their measurement of overall self-esteem, but
they provided either no evidence or poor evidence that this
resulted in a better measure of self-esteem. Secondly,
Rosenberg found clear evidence that importance of an area

is positively related to self-rating in that area. Thirdly, Rosenberg found some support for the idea that the adverse effects of a poor self-rating in an area on general self-esteem are more pronounced when that area is seen as being more important. Finally, Rosenberg hypothesized that for "being likeable" the relationship of self-rating to global self-esteem is stronger among those who place a great deal of importance on this area than among those who do not; however, evidence supporting this position was not statistically significant.

Given Rosenberg's findings it is reasonable to conclude that importance variables play a vital role in determining self-esteem, but further research is needed to understand the underlying processes and structure. More specifically, the relationship of importance and area-specific self-esteem (and not just global self-esteem) needs to be examined, and in doing so the research should do more than simply dichotomize the importance variable.

Causal Relationships

One major advantage of taking data on a sample at more than one point in time is that it allows, in many cases, the application of causal techniques such as cross-lagged panel analysis. Unfortunately, almost all self-esteem studies to date have been 'one-shot' investigations; nevertheless, there have been a few longitudinal studies in

general (see Engel, 1959; Carlson, 1965; Constantinople, 1969; and Rubin, 1978) and one published study explicitly examining causal relationships (Calsyn and Kenny, 1977). In this study Calsyn and Kenny used cross-lagged panel correlations to support the hypothesis that academic achievement caused changes in later self-concept of ability among females.

Since cross-lagged panel analysis is relatively new, it would perhaps be prudent to review its rationale and use. Briefly, given data on the same two variables at two different points of time (e.g., A_1, B_1, A_2, B_2), the researcher can compare the cross correlations (i.e., A_1 with B_2 versus B_1 with A_2) in order to make causal inferences. If one of these correlations (e.g., B_1 with A_2) is significantly greater than the other, the researcher has reason to infer a causal explanation for this correlation (e.g., B_1 "causes" A_2, as opposed to A_1 "causing" B_2). It should be noted that several other factors such as reliabilities and time effects need to be taken into account (see Kenny, 1975, 1979), and also that such causal inferences are by no means to be considered as "proof" of causation, but merely as information supporting a causal hypothesis.

Obviously further research on causal relationships is needed in order to better understand the relationships between self-esteem, importance variables, and self-ratings.

Any causal information along these lines could prove to be extremely useful in terms of theory building.

Theoretical Perspectives

Definition. Since the construct of self-esteem plays a major role in this study, it would be wise to once again define it so as to distinguish it from similar concepts such as self-concept or self-rating. First of all, self-concept refers to the subject's self-view, self-estimate, or self-rating. It is essentially the perception that each person has of himself or herself, in regard to either specific areas or general characteristics. Self-esteem, on the other hand, refers to the evaluative dimension of self-view, and reflects the person's attitude of satisfaction or dissatisfaction, approval or disapproval, acceptance or non-acceptance of self. This evaluative attitude can be characteristic of certain aspects of one's life or personality (area-specific self-esteem) or can refer to one's overall attitude (global or general self-esteem). Although very little research or theoretical work has been done on area-specific self-esteem, some theoretical work has been done on self-esteem in general, the most noteworthy being Rosenberg's (1979) recent work in which he posits four major processes involved in self-esteem formation.

Reflected Appraisals. Perhaps the greatest factor
influencing self-esteem is the impact of evaluations from
significant others. These evaluations, or reflected apprais-
als, are especially important in early childhood, since
they are the major sources for information on which each
child bases his or her self-conception (see Robinson, 1980).
This mechanism is best exemplified by feelings of self-
esteem arising from affiliation and affection from family
and friends. On the other hand is the situation in which a
loss of self-esteem results from negative appraisals, espec-
ially if they come from significant others or if there seems
to be a consensus regarding certain aspects. This issue of
consensus, or consensual validation, is important since it
acts to stabilize self-esteem, for better or worse. It
should also be noted here that it is not necessarily others'
attitudes and evaluations that affect one's self-esteem, but
rather one's perception of what those attitudes are. Al-
though this allows for disparate views by self and others,
Rosenberg (1979) cites data showing that this rarely oc-
curs, and that individuals tend to see themselves as they
are actually seen by others.

As we noted earlier, research indicates the existence
of two distinct sources of self-esteem: affiliation (or
support) and status. Reflected appraisals appear to corres-
pond to the former, while another mechanism, social compar-
ison, is largely responsible for the latter.

Social Comparison. Another major way in which individuals learn about themselves is by comparing themselves to others. These others, referred to as the "reference group", play a vital role in the formation of self-esteem. Two students may have equal academic ability, but if one compares himself with his less able friends and the other compares herself with her friends in the honor society, the effects of the comparisons are likely to be different. This principle helps to explain facts that might otherwise be confusing at first glance. For example, Rosenberg (1979) states that:

> Since the principle of social comparison is sound, and
> since black children compare unfavorably with whites
> in a number of specific respects which are critical
> for self-esteem how is it possible that the self-
> esteem of black children is not lower than that of
> white children? The flaw in this reasoning, we sug-
> gest, is the assumption that (at least among children),
> blacks are using whites as their comparison reference
> group. Social comparisons do affect self-esteem, and
> do so for blacks and whites alike. But overwhelmingly,
> we believe, the black child compares himself with
> other blacks, not with whites. (p. 171)

As was stated earlier, social comparison is more appropriate for explaining status sources of self-esteem

than for affiliation sources of self-esteem. This is
not surprising, since things like familial support and
peer friendships do not lend themselves well to social
comparisons.

Self-Attribution. In contrast to the other two
formative principles, this third principle, self-attribu-
tion, is useful in explaining both status and affiliation
aspects of self-esteem. Self-attribution is essentially
a special case of attribution theory applied to the self-
concept. In other words, on the basis of one's actions,
one attributes certain characteristics to the self in
order to explain those actions. For example, a student
may discover that she is always successfully helping others
with their homework, and after reflecting upon it decides
that she is not as poor a student as she thought she was.
In like manner, people may re-evaluate themselves in terms
of their abilities (status aspects) or in terms of their
personal interactions with others (support and affiliation
aspects).

Psychological Centrality. Although reflected apprais-
als, social comparison, and self-attribution are important
in explaining formation of self-esteem, their usefulness is
limited without the application of a fourth principle,
namely psychological centrality. This principle has been
alluded to earlier in the discussions of self-values and

importance. As was pointed out earlier, many researchers make the unwarranted assumption that all areas of experience are of equal importance to each individual. In doing so, they ignore the fact that each person has a unique hierarchy of values, with some areas being much more central than others. Thus each person is apt to place more importance on those areas which are psychologically central to the self.

Psychological centrality is an especially appropriate principle in explaining why specific areas of ability may affect individuals' self-esteem differently. For example, Coleman (1961) classified ten high schools into those in which athletic ability was highly valued and those in which it was not. Looking only at those boys who were chosen as the best athletes in their school, he found that in those schools where athletic ability was highly valued, only 9 percent of the boys expressed a wish to be somewhat different. However, in the schools where athletic ability was not valued as highly, 15 percent of the boys wanted to be somewhat different. Thus it was not actual ability, but rather the value attached to that ability that best explained these differences in self-esteem.

The principle of psychological centrality also helps to explain why some subjects can more readily change their self-concepts in an area than others can. For example,

a student who sees himself as good in sports and places
a great deal of importance upon this aspect will be much
less likely to change his conception of his ability when
confronted with negative information than will an equally
able student who does not place as much importance on
sports ability. For the first student, the negative infor-
mation presents a much more real threat to his feelings of
self-esteem, since the psychological centrality of sports
ability makes it play a larger role in determining his
overall self-esteem.

The theoretical reasons behind these differences in
psychological centrality are discussed by Gergen (1971),
who lists three basic determinants of salience--his term
for psychological centrality. First, the amount of learn-
ing or training in an area has a definite effect on its
importance. For example, children of musicians often place
a much greater importance on the fine arts than do other
children. Secondly, the salience of an area will depend on
the stimulus situation at that given time. The ability to
write well, for instance, will be much more important to
the student during the semester of freshman English than
during the months of summer vacation. Thirdly, motivation
plays a vital role in determining the salience of an area.
Those areas which are most instrumental in helping the per-
son fulfill his or her needs will be the ones that acquire
increasing importance. A child who has just witnesssed the

divorce of her parents will be more likely to place greater importance on those sources of self-esteem associated with support and affiliation. Another example would be the case of the young adolescent who suddenly takes a great deal of interest in his or her appearance. This motivation to appear attractive to the opposite sex will affect the salience of several social areas, thus most likely creating changes in self-esteem as well.

Psychological Centrality and Emotions. According to the theory outlined above, psychological centrality plays a key role in determining self-esteem. Because of this it would be wise to have an alternative method of measuring importance, particularly a method that would minimize social desirability characteristics. One such measure is suggested by Epstein's (1973) theoretical work on self-concept, where he points out the relationship between the importance of an event and the emotional reactions associated with it:

> For an emotion to occur, a postulate of significance to the individual must be implicated ... assuming that the stronger the positive or negative emotion, the more significant is the postulate.... Thus, if a woman is found to register strong anticipatory anxiety before a beauty contest and considerable unhappiness after not winning it, but little reaction before and after failing an important examination, it can be inferred that, within her self-system, beauty is more

important than academic achievement. This, of course,
may appear to be self-evident, but the point is that
if one were to ask her, she might well report having
the opposite values. (p. 411)

Theoretical work by Aronfreed (1968) and May (1969) also
supports the idea that emotional reactions are directly
related to one's value system and thus are indicative of
the psychological centrality of an area. The implications
of this relationship are especially useful from the view-
point of counseling, since it provides a link between
two key concepts in counseling--emotional reactions and
self-esteem.

CHAPTER III

STATEMENT OF THE PROBLEM

Introduction

As is evident from the previous discussion, there are several problems in need of further research. These problems can basically be consolidated under four major questions, namely:

(1) Are there significant race, sex, social class, or age differences on the importance of certain areas?

(2) What, if any, is the relationship between emotional reactions and psychological centrality?

(3) Is there substancial evidence indicating causality in relationships involving school self-esteem or self-concept of academic ability?

(4) What are the relationships between self-esteem, importance, and self-ratings in each area, and how do these contribute to general self-esteem?

Given the many areas of experience that contribute to self-esteem, it is obvious that not all relationships involving area-specific self-esteem can be investigated; nevertheless, the areas which are covered in this investigation should provide some insight into the structure and processes of self-esteem.

Hypotheses

Importance Differences. If psychological centrality plays a key role in determining self-esteem, as Rosenberg (1979) and Wylie (1974) suggest, then it would be useful to know if there are major differences between groups (such as race, sex, or social class) on the importance ascribed to certain areas. For example, if it is confirmed that males place a significantly greater importance on sports than females do, this information would prove to be helpful in explaining why failure in sports could have minimal effect on a girl's self-esteem but a much greater effect on a boy's self-esteem. Another example of group differences on importance is Coleman's (1961) study which showed that the value system held by the group (the importance of athletic ability at each school, in this case) had some effect on self-esteem.

Previous work by Rosenberg (1965) indicates that adolescent boys put significantly more importance on athletic ability than adolescent girls do. Shoemaker (1979) also found this to be true for fifth grade students and additionally found that black males placed a greater importance on being good at sports and games than white males did. Such findings are not surprising in light of the fact that society stresses athletic achievement (especially for boys) and that athletic achievement is often portrayed as a prime

method in which blacks advance their position in society. Given the above results, one could reasonably expect that these findings would also hold for eighth grade students. Thus the following hypothesis is posited:

(1) The importance of athletic ability will vary significantly by race and sex.

Shoemaker also found that race differences among fifth grade students also existed for the importance of appearance, popularity, and popularity with the opposite sex, with blacks (especially black males) placing greater importance on these areas. One possible reason for this may be that since black boys as a group do very poorly academically (see Hare, 1980) they may be more apt to place less importance on academic matters and proportionately more importance on peer interactions and status among peers. In other words, their strivings for status would more likely take place in peer arenas than in the school arena. It would be reasonable to expect these results to hold for eighth grade students as well, especially since the importance of peer interactions increases as the children enter adolescence. Therefore it is hypothesized that:

(2) The importance of appearance, popularity, and popularity with the opposite sex will vary significantly by race.

In regard to social class differences, Rosenberg found
that the importance of being a good student in school was
significantly related to social class (for both boys and
girls), with the higher social classes attaching more
importance to being a good student. This is not surprising
since schooling is seen almost as a prerequisite to social
advancement among the middle and upper classes, while this
is not apt to be the case with the lower class. As Rosen-
berg (1965) states, "The values of the educationsl system
are those distinctive of the higher classes and are antagon-
istic to many of the values distinctive of the lower class-
es" (p. 260). Since Rosenberg found social class differ-
ences for the importance of being a good student and since
one major aspect of being a good student is getting good
grades, it would be reasonable to expect social class
differences on the importance of getting good grades. Thus
it is hypothesized that:

(3) The importance of getting good grades will vary
significantly by social class.

In addition to group differences on importance there
is also the aspect of age differences. Changes in the
importance of various areas over a span of years could be
indicative of changes in the structure of self-esteem.
Knowledge of these changes in the psychological centrality
of areas across time can be of great use to the teacher,
counselor, or developmental psychologist who wishes to

understand developmental processes, especially those involv-
ing self-esteem. In this case it is possible to note these
changes in importance since data is available on many of
the students for both fifth and eighth grades.

Two areas where one might expect to find developmental
changes would be peer values and school values. In partic-
ular, one would expect that as children enter adolescence,
the importance of appearance and popularity would increase,
and one would certainly expect an increase in the importance
of being popular with the opposite sex. In regard to
school, it is reasonable to expect that as the students
approach high school age, there is an increasing stress by
school system to perform well, as well as an increasing
awareness on the part of the adolescents that society places
a great deal of value on academic success; thus an increase
in the importance of getting good grades would be expected.
In summary, then, it is hypothesized that:

(4) The importance of appearance, popularity, popular-
ity with the opposite sex, and getting good grades will vary
significantly by age.

Emotional Reactions and Importance. By inquiring how
upset or bothered the subject would be by certain circum-
stances we can get an alternative measure of importance.
This is assuming, of course, that Epstein's (1973) theory
in this regard is correct. The following hypothesis is
posited to test this theory:

(5) The strongest relationships will be found between importance and emotional reaction questions dealing with the same area; these relationships will be positive and significant.

Besides using correlation coefficients, another way in which one can measure whether different kinds of questions tap the same dimension is to use factor analysis. In addition to showing the relationships between items, factor analysis will also give an indication of how many unique dimensions are being measured (i.e., the number of factors). In the present case, four status-related areas will be measured both in regard to importance and emotional reactions. Thus it is hypothesized that:

(6) Factor analysis of the importance and emotional reaction items will yield four significant factors corresponding to appearance, popularity, athletic skill, and getting good grades.

Causality and Self-Concept. Since this present investigation examines subjects that were also surveyed three years ago, there is longitudinal data that can be analyzed in terms of causal relationships. As described earlier, cross-lagged panel analysis is best suited for this type of analysis (see Kenny, 1975).

In order to develop causal hypotheses, it is first necessary to posit a model involving ability, self-concept of ability (or self-rating), importance, and self-esteem.

Unfortunately, there is very little causal research on
which to base any model, except for the work of Calsyn and
Kenny (1977), who found support for the hypothesis that
academic achievement caused changes in later self-concept
of ability among females. Using this information as a
starting point, the following model is posited:
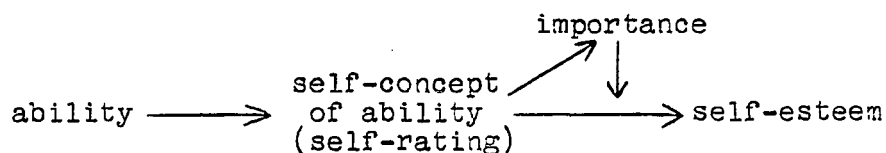
Figure 1.--Self-Esteem Causal Model

The model is derived from the following sequence:
On the basis of observing his or her ability (or actions),
the subject makes a judgement about this ability and forms
a self-concept of ability (or self-rating). This relatively
objective self-concept leads directly to a more subjective
evaluation concerning the self, i.e., self-esteem. This
evaluation is dependent on two additional factors, however.
One factor to be considered is the subject's level of aspir-
ation in the area being considered. If the self-concept of
ability is reasonably close to the level of aspiration, the
influence on self-esteem in that area is likely to be posi-
tive; if not, self-esteem for that area may suffer. It

would appear, then, that aspiration level should be included
in the causal model; however, this is not necessary, for as
McCandless (1970) and Wells and Marwell (1976) point out,
for the major areas of life such as popularity, appearance,
academic achievement, and emotional support the aspirations
(but not expectations) of the subjects are similar. (Thus
they contend that the use of self-ideal discrepancy scores
yields very little additional information.) The other fac-
tor affecting self-esteem is importance, which is included
in the model.as a factor influencing the relationship be-
tween self-rating and self-esteem. Positing importance as
a mediating factor between these two variables is supported
by Rosenberg's (1965) finding that for "being likeable" the
relationship between self-rating and global self-esteem was
stronger when this quality was seen as being important.
Since importance appears to mediate the relationship between
self-rating and global self-esteem, it is also reasonable to
expect that importance also mediates the relationship be-
tween self-rating in an area and self-esteem in that area.
(The exact nature of this mediation will discussed in the
next section.)

A final aspect of this model which should be noted is
the assumption that importance is not independent of self-
rating. In other words, the psychological centrality of
an area will depend, to some extent, on the individual's
self-rating in that area. As Rosenberg (1965) puts it,

"We would expect most people to value those things at which
they are good and try to become good at those things they
value (p. 250)."

According to the foregoing model, ability "causes"
self-concept of ability, which in turn is a causal agent in
the formation of self-esteem and importance of that area.
Yet it should be pointed out that this model is only meant
to indicate those causal effects which are assumed to be
predominant. Thus the model does not necessarily rule out
reciprocal effects (such as self-concept of ability also
in turn having some causal effects on ability), but merely
is designed to show those causal effects which are assumed
to be the most influential. Keeping this in mind, the fol-
lowing hypotheses are posited in regard to the area of
academic achievement:

(7) Achievement will be found to be causally related
to later self-concept of academic ability.

(8) Self-concept of academic ability will be found to
be causally related to later school self-esteem and impor-
tance of getting good grades.

Area-Specific Self-Esteem, Self-Rating, and Importance.
This section will consider in greater detail the nature of
the relationships between self-esteem, self-ratings, and
importance. First of all, hypotheses regarding the con-
struct validity of these variables will be posited. Second-
ly, the relationship of several self-esteem variables to

global self-esteem will be examined. Finally, the exact
nature of the relationship between self-rating, self-esteem,
and importance in each area will be investigated, and in
particular an emphasis will be placed on examining the re-
lationship between importance and self-esteem in each area.

Since a major emphasis in this investigation is to
study relationships involving specific areas of self-esteem
such as satisfaction with popularity, appearance, grades,
or athletic ability, it is important to establish some sup-
port for the construct validity of these concepts. As was
mentioned previously, Shoemaker (1980) has shown evidence
supporting the construct validity of peer, home, and school
self-esteem. Since the self-esteem variables involved in
this study are essentially sub-areas of peer, home, or
school self-esteem, these variables should exhibit the
strongest relationships with the larger area (peer, home,
or school) of which they are a part. If they do not, the
construct validity of these more delimited areas of self-
esteem is certainly open to question.

The specific self-esteem variables to be considered
cover the aspects of both status and support. The self-
esteem variables dealing with support cover self-esteem
derived from parent's attitudes, teachers' attitudes, and
friends' attitudes as they relate to the subject. The self-
esteem variables dealing with status aspects include popu-
larity, appearance, getting good grades, and athletic abil-

ity. In the case of getting good grades, there should obviously be a strong relationship with school self-esteem, but one could also expect a significant relationship with home self-esteem since the student's satisfaction with grades is very much dependent on parental attitudes. Thus the following hypothesis is posited:

(9) The strongest relationships will be between peer self-esteem and self-esteem arising from popularity, appearance, athletic ability, and friends' attitudes; between home self-esteem and self-esteem arising from parents' attitudes and getting good grades; and between school self-esteem and self-esteem arising from teachers' attitudes and from getting good grades.

Assuming that these self-esteem variables behave as expected, it would then be prudent to provide evidence supporting the construct validity of the respective self-rating variables. One way to accomplish this would be to show that the respective self-esteem and self-rating variables for each area "hang together", that is, the strongest relationships would be between variables from the same area. (This would be in keeping with the causal model positing a direct relationship between self-rating and self-esteem.) For example, self-rating of popularity should be correlated more highly with self-esteem due to popularity than with self-esteem variables from other areas. In accordance with this, the following hypothesis is posited:

(10) The strongest relationships will be found between
the self-esteem variables and self-rating variables from the
same area; thus the intra-area correlations will be greater
than the inter-area correlations.

Although the focus of this investigation is on rela-
tionships within areas of self-esteem, it would be advanta-
geous to investigate how the separate areas of self-esteem
contribute to global self-esteem. Watkins (1976) attempted
to do this by weighting each self-esteem area by its respec-
tive importance to the individual, but even he admitted that
his method was poor from a psychometric standpoint since it
involved the multiplication of ordinal measures. A much
more acceptable method would be to use multiple regression,
since it is psychometrically robust and has the additional
advantage of being able to deal with set of variables which
may be moderately correlated with each other. (Watkins'
method unfortunately makes the implicit assumption that
the areas of self-esteem are independent of each other.)

Determining the contribution of each delimited area
of self-esteem to overall self-esteem can serve two useful
purposes. The first is to determine whether the self-esteem
variables used in this investigation (i.e., popularity, ap-
pearance, athletic ability, good grades, parental support,
friends' support, and teachers' support) all contribute
significantly to overall self-esteem. It is hoped that

each of the above areas will contribute significantly, but even if this turns out not to be the case, the regression weights provide useful information about the psychological centrality of each area. (It should be noted here that the regression weights may not necessarily be proportional with the importance measures for each area since the regression weights consider all areas concurrently and take into account the fact that the areas may not all be independent of each other; the importance measures, on the other hand, consider each area independently of the others. Thus each method of measurement offers a unique, yet equally valid, perspective on psychological centrality.)

A second way in which multiple regression proves useful is in determining group differences in the way each area contributes to overall self-esteem. Hare (1975) showed that contribution of peer, home, and school self-esteem to over-all self-esteem varied by race and social class, but did not investigate sex differences in this regard. Since Rosenberg (1979) states that there are several dimensions on which male and female self-concepts differ, it would be appropriate to investigate sex differences in the way each area of self-esteem contributes to overall self-esteem. In view of the above discussion, the following hypotheses are posited:

(11) Self-esteem in the areas of popularity, athletic ability, appearance, getting good grades, parental support,

teachers' support, and friends' support will all contribute
significantly to overall self-esteem.

(12) The contribution of the areas of self-esteem to
overall self-esteem will vary by sex.

The final and prime focus of this investigation is on
the relationship self-esteem, self-rating, and importance
within each area of experience (such as athletic ability
or parental support). As the causal model developed earlier
indicates, the relationship between self-rating (or self-
concept of ability) and self-esteem for an area appears to
be mediated by the importance ascribed to that area. What
needs to be determined is whether or not this model is sup-
ported by empirical evidence, and if so, what the exact
nature of the mediation process is. The limited evidence
available (Rosenberg, 1965) indicates that the relationship
of one's self-rating in an area one's general self-esteem is
strongest when that area is seen as being very important.
If this holds for general self-esteem, then we would expect
it to hold to an even greater extent when the appropriate
area-specific self-esteem is used instead of general self-
esteem. Thus if the importance ascribed to an area is low,
one would expect the effect of self-rating on self-esteem
for that area to be minimal. On the other hand, if the area
is viewed as being very important, one would expect the ef-
fect of self-rating on self-esteem to be much greater. For
example, if a child does poorly in sports and is aware of ..

it, we would expect this negative self-concept of ability

to create greater dissatisfaction (lower self-esteem) in

this area if he views success in this area as being very

important than if he does not. One way to conceptualize

this relationship is to view changes in self-esteem in an

area as being the product of importance "times" self-rating.

(Obviously in practice one would not multiply the importance

measure by the self-rating measure; rather, this model is

meant to be an illustrative analogy.) This conceptualiza-

tion is useful in understanding the following model:

For each area:

importance X self-rating = self-esteem change

1.	o	+	o
2.	o	–	o
3.	+	+	+
4.	+	–	–

Figure 2.--Area-Specific Self-Esteem Change Model

This model indicates that when an area is perceived as

being not important (o) the effect of the self-rating of

that area on the self-esteem (or satisfaction) in that area

is minimal (o). When the area is seen as very important (+)

the self-rating, be it positive (+) or negative (-), should

have a much greater impact on self-esteem.

Two aspects of this model are important to note. First

of all, if one assumes that people attempt to maximize their

self-esteem whenever possible, as research by Jones (1973)
seems to indicate, it appears reasonable that they would
use the processes suggested by the middle two lines of the
above figure. Thus, as the model suggests, they would value
those areas in which they excell and put minimal importance
on those areas in which they are poor. As discussed earlier,
this is exactly what Rosenberg's (1965) research indicated.
Secondly, this model is more appropriate for status areas
of self-esteem than for supportive or affective areas of
self-esteem. For example, it is reasonable to imagine that
a person could place no importance on being good at sports,
but it is another thing to imagine that a person could place
no importance on receiving parental affection. In other
words, the status areas should exhibit a greater variation
in terms of importance.

If the model posited above is a reasonable representa-
tion of empirical facts then the following two relationships
should hold. First of all, analysis of importance, self-
rating, and self-esteem concurrently should indicate inter-
actions involving all three variables. (This can be readily
tested by means of log-linear analysis, which will be de-
scribed in the following chapter.) Secondly, if we examine
the relationship between importance and self-esteem (i.e.,
the first and third columns in Figure 2), it is apparent
that there is a curvilinear relationship, with the effects
on self-esteem being both highest and lowest when importance

is high, and minimal effects on self-esteem when importance is low. Thus, in order to test the above model, the following hypotheses are posited:

(13) For each area, self-esteem will be concurrently related to both self-rating and importance (i.e., the most appropriate log-linear model will include interactions involving all three variables).

(14) There will be a significant curvilinear relationship between importance and self-esteem for each area.

It should be noted here that acceptance of hypothesis 13 simply indicates existence of a three-way relationship between the variables; further examinition of the data will be necessary to see if this relationship is one that is consistent with the above model. Hypothesis 14 represents one result that should follow if this is the case.

CHAPTER IV

THE METHOD

The Measures

Although there has been little work done on the meas-
urement of the more delimited areas of self-esteem, such as
popularity or athletic ability, there has been adequate
work done on the measurement of the larger areas of peer,
home, and school self-esteem. Since this investigation
uses these larger areas of self-esteem for the purpose of
establishing support for the construct validity of the more
delimited areas, it is necessary that the peer, home, and
school self-esteem measures be reliable and valid. The
Hare Self-Esteem Scale was chosen in this regard because
the peer, home, and school sub-scales show sufficient reli-
abilities (.75, .65, and .75, respectively--see Hare, 1980)
and there is adequate evidence to support the construct
validity of these areas (Shoemaker, 1980). (The Hare Self-
Esteem Scale is reproduced in Appendix A.)

General self-esteem was measured using seven items from
Rosenberg's (1965) Self-Esteem Scale (Appendix B). This
scale was chosen for three reasons. First, this scale is
relatively well known and thus there is a large body of
literature on the aspects and applications of this scale.

Secondly, Rosenberg has shown that his scale correlates
highly with measures of mental health, behavioral rating
scales, and lack of psychosomatic symptoms. This and other
evidence strongly supports the construct validity of this
scale. Finally, the Rosenberg scale has been shown to be
unidimensional (Hensley & Roberts, 1976) and thus it is
unlikely that any particular areas of self-esteem are being
measured inadvertantly.

Less information is available on the measurement of
the importance of specific areas (such as athletic ability
or popularity). Previous work by Rosenberg (1965) and
Shoemaker (1979) indicates support for the construct valid-
ity of importance items since they relate to other variables
in the expected fashion (such as males ascribing more imp-
ortance to being good at sports and games). In this inves-
tigation, four questions relate to the importance of status
areas (importance of popularity, appearance, athletic abil-
ity, and getting good grades) and three to the importance
of support areas (importance of parents' understanding,
friends' understanding, and teachers' understanding). In
each case the subject is requested to rate each attribute
as extremely important, very important, quite important,
somewhat important, or not important (see Appendix C). The
category of "extremely important" was included since previous
investigations (Shoemaker, 1979) showed responses tend to be
highly skewed toward the "very important" end of the scale.

Emotional reactions were measured by asking the subjects to what extent they would be bothered by certain hypothetical situations (e.g., doing poorly in sports, getting poor grades, or being unpopular). Emotional reactions to appearance were determined by asking the subjects to what extent they worried about how they looked (see Appendix D). The items dealing with emotional reactions involve only status areas since hypothetical situations in these areas are easier for the subjects to conceptualize.

For the causal hypotheses, self-concept of academic ability was measured by five items taken from Brookover's (1965) measure (see Appendix E). Achievement scores were assessed by performance on the reading and mathematics sections of the Metropolitan Achievement Tests (Durost, Bixler, Wrightstone, Prescott, & Balow, 1970) administered by the school district.

Self-ratings in the status areas were measured by questions such as "How would you rate yourself in popularity compared to others your age?" (It should be noted that these items are almost identical in form to the rating question contained in Brookover's scale.) In the cases of school ability and popularity, an additional item was added to provide a greater range in scores since there were a disproportionately large number of subjects who rated themselves as average in these areas (see Appendix F). Self-ratings pertaining to support areas were measured by two

items for each of the three areas (parents, teachers, and friends). In each area there is a question regarding the subject's perception of others' interest in him or her and another regarding being understood by others. These self-rating measures for the support areas are obviously of a different nature than those for the status areas, and this rightly reflects the different mechanisms involved.

In order to determine self-esteem for each of the seven areas (popularity, appearance, athletic ability, getting good grades, parents' attitudes, friends' attitudes, and teachers' attitudes), the subjects were asked to rate their satisfaction with themselves in each of these areas (see Appendix G). The questions were couched in terms of "satisfaction" for two reasons. First, the term "satisfaction" is not as likely to be confused with self-rating or self-concept of ability as are terms such as "feel good" or "feel poorly". Secondly, Rosenberg (1965) regards self-satisfaction and self-esteem as being practically synonymous. In regard to people with high self-esteem he states: "One might also consider applying the term self-satisfaction to describe these people, were this term not too loaded with the connotation of smugness" (p. 31).

The satisfaction questions were specifically designed to include several aspects. One is that each item has a range of nine responses, thus allowing for greater accuracy in measurement. Another important aspect is that both posi-

tive and negative responses are equally represented. This is to prevent the situation that occurs with other self-esteem measures where the researcher presents a set of responses ranging from neutral to positive, collects the data, and then arbitrarily chooses a cut-off point to dis-tinguish "low self-esteem" from "high self-esteem". In this case, the use of positive and negative responses elim-inates the need for such arbitrary distinctions. Finally, these items also include a neutral response ("neither satis-fied or dissatisfied"). This category may prove especially useful in analyzing hypothesis fourteen since it is expected that subjects who ascribe low importance to an area will tend toward more neutral responses.

The Sample

The sample consists of 310 eighth grade students in the Champaign, Illinois school system. Blacks constitute 17% of the subjects sampled. In terms of socio-economic status (SES), about 30% of the students were classified as lower class, 40% as middle class, and 30% as upper class. The classification system used was the Duncan index of occupational status (reproduced in Miller, 1977). The upper limits for each class in terms of the index were 34, 66, and 96 for the lower, middle, and upper classes, respectively.

It should be stressed that since there are no naturally occurring divisions between the social classes, this classfication system is primarily meant to be an aid in conceptualization and measurement.

Data Collection

The measures contained in Appendices A through G were administered to the students in their schools. The questions were read aloud to the students (as well as being printed on the questionnaires) in order to promote uniformity of presentation. The subjects were told that the results would be kept confidential and would not be revealed to their teachers or parents. They were urged to be as honest as possible, but were also informed that anyone who did not wish to participate would be free to refrain from answering any or all questions. Throughout the questionnaire it was stressed that there were no right or wrong answers. The entire procedure took approximately 35 minutes for each administration.

Data Analysis

In addition to using the common statistical methods for analyzing the results, two relatively new procedures, cross-lagged panel analysis and log-linear analysis of contingency tables, were used to test hypotheses dealing with causation and interactions among three variables,

respectively.

The logic of cross-lagged panel analysis was briefly explained earlier; much greater detailed information is given in the presentations by Kenny (1975, 1979). Nevertheless, at this point it would be appropriate to present the significance test used in this analysis, particularly since the formula is not commonly found in the literature (with the exception of Kenny, 1975). First of all, let us assume that we have two variables, A and B, measured at $time_1$ and later at $time_2$. This situation is illustrated in Figure 3:
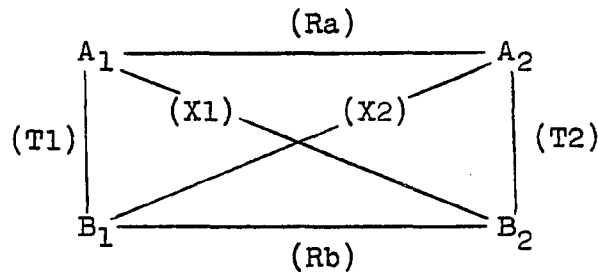
Figure 3.--Cross-Lagged Panel Correlations

The symbols within parentheses represent the correlation coefficients between all possible pairs of variables. These are easiest to conceptualize as the correlations at $time_1$ and $time_2$ (T1 and T2), the "reliabilities" for A and B (Ra and Rb), and the cross-correlations (X1 and X2).

The following formula tests the null hypothesis of equality of the cross-lagged correlations:

$$Z = \frac{(X1 - X2)(N)^{\frac{1}{2}}}{((1 - X1^2)^2 + (1 - X2^2)^2 - k)^{\frac{1}{2}}}$$

where k = (Ra-T2*X1)(Rb-T2*X2) + (T1-Ra*X2)(T2-Ra*X1)

+ (Ra-T1*X2)(Rb-T1*X1) + (T1-X1*Rb)(T2-Rb*X2)

and N is the sample size.

The result, Z, has approximately a standard normal distribution, and thus can be compared with standard Z-scores.

The other relatively new procedure is log-linear analysis of contingency tables. The name is derived from the fact that logarithms are used to calculate the expected frequencies and also from the fact that the results can be expressed in terms that are analagous to the general linear model used in analysis of variance. In general, the procedure is analagous to calculating chi-square for a two dimensional contingency table, except that in the case of log-linear analysis three or more dimensions are commonly considered. Essentially, the results indicate whether or not there are relationships or interactions between any of the variables (dimensions), and if so, what model(s) would best fit the data. For example, given three variables, A, B, and C, which are essentially categorical in nature, log-linear analysis will indicate to what extent a model of mutually independent variables (the common notation being A,B,C) fits the data, and to what extent

other models indicating relationships fit the data. If
A and B interact with each other, but C has no relation-
ship to either A or B, we would expect the model of AXB,C
(A and B interacting, C independent) to predict the observed
frequencies rather well. Incidentally, the model indicating
an interaction between all n dimensions (e.g. AXBXC) will
always fit the data, since log-linear analysis generally
assumes the existence of all lower order interactions as
well (see Reynolds, 1977).

Log-linear analysis is used to analyze catagorical var-
ables (i.e., nominal or ordinal data) and thus represents
a viable alternative to other methods (such as multiple
regression) when the assumptions of normal distributions
cannot be met. Another advantage of log-linear analysis is
that it does not assume linear relationships, and therefore
it can detect curvilinear or other relationships that would
most likely be obscured by more traditional methods of analy-
sis. Further information on the procedure itself is given
by Dixon (1977) and Reynolds (1977). Also, a computer pro-
gram (BMDP3F) is available which can perform log-linear
analysis on n-dimensional contingency tables (see Dixon,
1977). This program was used in the present investigation,
and for analysis purposes a constant of .2 was added to
each cell to prevent observed frequencies of zero. A fur-
ther explanation is given with the results in the next
section.

CHAPTER V

RESULTS

Importance Differences

In regard to the first hypothesis, that the importance
of athletic ability will vary by race and by sex, the find-
ings only support sex differences on this variable. The
results in Table 1 indicate that even though the blacks in
this study did place slightly more importance on athletic
ability, this difference was not significant. Further test-
ing showed that this relationship remained non-significant
even when only males were considered in the analysis. Thus
the results do not support the hypothesis of race differ-
ences on the importance of athletic ability.

While there appear to be no significant race differ-
ences in this area, there are significant sex differences
on the importance of athletic ability, as shown in Table 2.
As expected, males placed significantly greater importance
on this area, with approximately two-thirds of the males
viewing this area as very important or extremely important
but only about one-third of the females doing so. Thus the
results do not support the first part of hypothesis one but
do support the second part regarding sex differences.

TABLE 1

RACE DIFFERENCES ON IMPORTANCE OF SPORTS

```
                 IMPSPORT
         COUNT  I
         ROW PCT INOT      SOMEWHAT QUITE    VERY     EXTRMELY  ROW
         COL PCT I IMPORT.  IMPORT.  IMPORT.  IMPORT.  IMPORT.  TOTAL
         TOT PCT I     1.I      2.I      3.I      4.I      5.I
RACE             -I--------I--------I--------I--------I--------I
          1.     I    23   I    64  I    52  I    54  I    64  I    257
  WHITE          I   8.9   I  24.9  I  20.2  I  21.0  I  24.9  I   82.9
                 I  88.5   I  87.7  I  82.5  I  79.4  I  80.0  I
                 I   7.4   I  20.6  I  16.8  I  17.4  I  20.6  I
                -I--------I--------I--------I--------I--------I
          2.     I     3   I     9  I    11  I    14  I    16  I     53
  BLACK          I   5.7   I  17.0  I  20.8  I  26.4  I  30.2  I   17.1
                 I  11.5   I  12.3  I  17.5  I  20.6  I  20.0  I
                 I   1.0   I   2.9  I   3.5  I   4.5  I   5.2  I
                -I--------I--------I--------I--------I--------I
         COLUMN      26       73       63       68       80      310
         TOTAL      8.4     23.5     20.3     21.9     25.8    100.0

RAW CHI SQUARE =      2.80405 WITH   4 DF.  SIGNIFICANCE =    .5911
CONTINGENCY COEFFICIENT =   .09468
GAMMA =  .16679
PEARSON'S R =    .08768    SIGNIFICANCE =   .0617
```

TABLE 2

SEX DIFFERENCES ON IMPORTANCE OF SPORTS

```
                 IMPSPORT
         COUNT  I
         ROW PCT INOT      SOMEWHAT QUITE    VERY     EXTRMELY  ROW
         COL PCT I IMPORT.  IMPORT.  IMPORT.  IMPORT.  IMPORT.  TOTAL
         TOT PCT I     1.I      2.I      3.I      4.I      5.I
SEX              -I--------I--------I--------I--------I--------I
          1.     I     9   I    20  I    21  I    37  I    59  I    146
  MALE           I   6.2   I  13.7  I  14.4  I  25.3  I  40.4  I   47.1
                 I  34.6   I  27.4  I  33.3  I  54.4  I  73.7  I
                 I   2.9   I   6.5  I   6.8  I  11.9  I  19.0  I
                -I--------I--------I--------I--------I--------I
          2.     I    17   I    53  I    42  I    31  I    21  I    164
  FEMALE         I  10.4   I  32.3  I  25.6  I  18.9  I  12.8  I   52.9
                 I  65.4   I  72.6  I  66.7  I  45.6  I  26.2  I
                 I   5.5   I  17.1  I  13.5  I  10.0  I   6.8  I
                -I--------I--------I--------I--------I--------I
         COLUMN      26       73       63       68       80      310
         TOTAL      8.4     23.5     20.3     21.9     25.8    100.0

RAW CHI SQUARE =     42.05539 WITH   4 DF.  SIGNIFICANCE =    .0000
CONTINGENCY COEFFICIENT =   .34563
GAMMA = -.47881
PEARSON'S R =   -.33826    SIGNIFICANCE =   .0000
```

Hypothesis two posited that the importance of appear-
ance, popularity, and popularity with the opposite sex will
vary significantly by race. In regard to the importance of
appearance, Table 3 shows that there is a significant race
difference. (Note that the statistic of interest here is
the significance of chi-square, which indicates any differ-
ences between the groups. The significance of Pearson's R is
not as appropriate since it assumes normality of the distri-
butions and only indicates differences between the means;
nevertheless, it is included for completeness and to indi-
cate differences in directionality.)

TABLE 3

RACE DIFFERENCES ON IMPORTANCE OF APPEARANCE

		IMPLOOK COUNT I ROW PCT INOT COL PCT I IMPORT. TOT PCT I 1.I	SOMEWHAT QUITE IMPORT. 2.I	VERY IMPORT. 3.I	EXTRMELY IMPORT. 4.I	IMPORT. 5.I	ROW TOTAL
RACE							
WHITE	1.	I 22 I 8.6 I 66.7 I 7.1	I 74 I 28.8 I 96.1 I 23.9	I 73 I 28.4 I 83.9 I 23.5	I 65 I 25.3 I 85.5 I 21.0	I 23 I 8.9 I 62.2 I 7.4	257 82.9
BLACK	2.	I 11 I 20.8 I 33.3 I 3.5	I 3 I 5.7 I 3.9 I 1.0	I 14 I 26.4 I 16.1 I 4.5	I 11 I 20.8 I 14.5 I 3.5	I 14 I 26.4 I 37.8 I 4.5	53 17.1
	COLUMN TOTAL	33 10.6	77 24.8	87 28.1	76 24.5	37 11.9	310 100.0

RAW CHI SQUARE = 27.26539 WITH 4 DF. SIGNIFICANCE = .0000
CONTINGENCY COEFFICIENT = .28433
GAMMA = .17949
PEARSON'S R = .09284 SIGNIFICANCE = .0514

Table 3 indicates that proportionately more blacks view their appearance as extremely important (26% versus 9% for whites). However, this fact does not completely account for the differences, since proportionately more blacks also saw this area as not important (21% versus 9% for whites). Thus this relationship is not a simple one but perhaps can be best described as saying that whites are more likely than blacks to place moderate importance on this area, with blacks placing slightly greater importance on appearance overall (as indicated by the positive gamma statistic). Thus the first part of hypothesis two, that importance of appearance will differ by race, is accepted.

In regard to importance of popularity, Table 4 shows that there is a significant difference between the races, but that there is no clear directionality in this difference. It appears that in this instance the whites are again more likely than blacks to place moderate importance on this area. (Note that more than twice as many whites as blacks rated importance of popularity as somewhat important.) Although it could be argued that this result along with the result in Table 3 point to a possible response set among blacks, the findings in Table 1 do not support such a pattern and therefore this argument lacks adequate support. In any case, the results support the hypothesis of race differences on importance of popularity.

TABLE 4

RACE DIFFERENCES ON IMPORTANCE OF POPULARITY

COUNT ROW PCT COL PCT TOT PCT	IMPPOP INOT IMPORT. 1.I	SOMEWHAT IMPORT. 2.I	QUITE IMPORT. 3.I	VERY IMPORT. 4.I	EXTRMELY IMPORT. 5.I	ROW TOTAL
RACE						
WHITE 1.	42 16.3 73.7 13.5	101 39.3 91.0 32.6	69 26.8 84.1 22.3	30 11.7 75.0 9.7	15 5.8 75.0 4.8	257 82.9
BLACK 2.	15 28.3 26.3 4.8	10 18.9 9.0 3.2	13 24.5 15.9 4.2	10 18.9 25.0 3.2	5 9.4 25.0 1.6	53 17.1
COLUMN TOTAL	57 18.4	111 35.8	82 26.5	40 12.9	20 6.5	310 100.0

RAW CHI SQUARE = 11.27402 WITH 4 DF. SIGNIFICANCE = .0237
CONTINGENCY COEFFICIENT = .18733
GAMMA = .04753
PEARSON'S R = .03654   SIGNIFICANCE = .2608

In regard to the last part of hypothesis two, that there will be a significant race difference on the importance of popularity with the opposite sex, the results do not support any difference along these lines, as indicated in Table 5. Interestingly enough, a comparison of Table 5 with Table 4 reveals that for both blacks and whites popularity with the opposite sex is generally more important than popularity in general. Yet despite race differences on importance of popularity, the results do not support the hypothesis of race differences on the importance of popularity with the opposite sex, and thus the last part of hypothesis two is not accepted.

TABLE 5

RACE DIFFERENCES ON IMPORTANCE

OF POPULARITY WITH THE OPPOSITE SEX

	COUNT ROW PCT COL PCT TOT PCT	IMPSEX INOT I IMPORT. I 1.I	SOMEWHAT IMPORT. 2.I	QUITE IMPORT. 3.I	VERY IMPORT. 4.I	EXTRMELY IMPORT. 5.I	ROW TOTAL
RACE							
WHITE	1.	15 5.8 83.3 4.8	57 22.2 82.6 18.4	65 25.3 86.7 21.0	62 24.1 84.9 20.0	58 22.6 77.3 18.7	257 82.9
BLACK	2.	3 5.7 16.7 1.0	12 22.6 17.4 3.9	10 18.9 13.3 3.2	11 20.8 15.1 3.5	17 32.1 22.7 5.5	53 17.1
	COLUMN TOTAL	18 5.8	69 22.3	75 24.2	73 23.5	75 24.2	310 100.0

RAW CHI SQUARE =   2.60952 WITH 4 DF. SIGNIFICANCE =   .6251
CONTINGENCY COEFFICIENT = .09136
GAMMA = .09514
PEARSON'S R =   .04755   SIGNIFICANCE = .2021

In regard to hypothesis three, that the importance of
getting good grades will vary by social class, the results
do not support the hypothesis. Table 6 indicates no signif-
icant differences between the social classes on this vari-
able; the lower, middle, and upper classes all tended to
view getting good grades as very or extremely important.
(The degree of importance ascribed to this area is in it-
self a noteworthy finding, especially since it applies to
all social classes.) Given these findings, hypothesis
three is not accepted.

TABLE 6

SOCIAL CLASS DIFFERENCES ON

IMPORTANCE OF GETTING GOOD GRADES

```
              IMPGRADE
        COUNT I
        ROW PCT INOT     SOMEWHAT QUITE    VERY     EXTRMELY   ROW
        COL PCT I IMPORT. IMPORT. . IMPORT. IMPORT.  IMPORT.  TOTAL
        TOT PCT I    1.I     2.I     3.I     4.I     5.I
SES     --------I--------I--------I--------I--------I--------I
        1.  I     2 I     7 I    16 I    28 I    45 I     98
LOWER       I   2.0 I   7.1 I  16.3 I  28.6 I  45.9 I   31.6
            I  50.0 I  46.7 I  30.8 I  26.4 I  33.8 I
            I    .6 I   2.3 I   5.2 I   9.0 I  14.5 I
        -I--------I--------I--------I--------I--------I
        2.  I     0 I     3 I    23 I    38 I    57 I    121
MIDDLE      I     0 I   2.5 I  19.0 I  31.4 I  47.1 I   39.0
            I     0 I  20.0 I  44.2 I  35.8 I  42.9 I
            I     0 I   1.0 I   7.4 I  12.3 I  18.4 I
        -I--------I--------I--------I--------I--------I
        3.  I     2 I     5 I    13 I    40 I    31 I     91
UPPER       I   2.2 I   5.5 I  14.3 I  44.0 I  34.1 I   29.4
            I  50.0 I  33.3 I  25.0 I  37.7 I  23.3 I
            I    .6 I   1.6 I   4.2 I  12.9 I  10.0 I
        -I--------I--------I--------I--------I--------I
      COLUMN     4      15      52     106     133      310
       TOTAL   1.3     4.8    16.8    34.2    42.9   100.0

RAW CHI SQUARE =    11.90586 WITH   8 DF.  SIGNIFICANCE =    .1555
CONTINGENCY COEFFICIENT =   .19232
GAMMA = -.06409
PEARSON'S R =  -.02680     SIGNIFICANCE =   .3192
```

Hypothesis four predicted that the importance of appearance, popularity, popularity with the opposite sex, and getting good grades would vary significantly by age. In testing this hypothesis, the responses of these students (eighth grade) were compared to their own responses to these questions three years ago (fifth grade), although it should be kept in mind that data was not available for all of the students in fifth grade. An additional aspect that should be noted is that the category of "extremely important" was

not included on the fifth grade questionnaires. Thus, to make a relative comparison, the categories of "very important" and "extremely important" on the eighth grade measure were grouped together for analysis purposes.

In regard to age differences on the importance of appearance, the results show a significant difference between eighth grade and fifth grade responses, as indicated in Table 7. It is apparent that appearance is significantly more important in eighth grade than in fifth grade, and thus the first part of hypothesis four is accepted.

TABLE 7

AGE DIFFERENCES ON IMPORTANCE OF APPEARANCE

	COUNT ROW PCT COL PCT TOT PCT	IMPLOOK I INOT IIMPORT, I 1,I	SOMEWHAT IMPORT, 2,I	QUITE IMPORT, 3,I	VERY IMPORT, 4,I	ROW TOTAL
TIME						
8TH GRADE	2,	I 33 I 10,6 I 39,3 I 5,9	I 77 I 24,8 I 52,0 I 13,8	I 87 I 28,1 I 64,4 I 15,6	I 113 I 36,5 I 59,2 I 20,3	310 55,6
5TH GRADE	1,	I 51 I 20,6 I 60,7 I 9,1	I 71 I 28,6 I 48,0 I 12,7	I 48 I 19,4 I 35,6 I 8,6	I 78 I 31,5 I 40,8 I 14,0	248 44,4
	COLUMN TOTAL	84 15,1	148 26,5	135 24,2	191 34,2	558 100,0

RAW CHI SQUARE = 15,07792 WITH 3 DF, SIGNIFICANCE = ,0018
CONTINGENCY COEFFICIENT = ,16220
GAMMA = ,18967
PEARSON'S R = ,13211 SIGNIFICANCE = ,0009

In contrast to the findings on importance of appearance, there are no significant age differences on the importance of popularity. Table 8 indicates that the importance ascribed to appearance in eighth grade has changed little from that in fifth grade. Thus the second part of hypothesis four is not accepted.

TABLE 8

AGE DIFFERENCES ON IMPORTANCE OF POPULARITY

	COUNT ROW PCT COL PCT TOT PCT	IMPPOP I INOT IIMPORT. I 1.I	SOMEWHAT IMPORT. 2.I	QUITE IMPORT. 3.I	VERY IMPORT. 4.I	ROW TOTAL
TIME						
8TH GRADE	2.	57 18.4 52.3 10.2	111 35.8 52.9 19.9	82 26.5 66.1 14.7	60 19.4 52.2 10.8	310 55.6
5TH GRADE	1.	52 21.0 47.7 9.3	99 39.9 47.1 17.7	42 16.9 33.9 7.5	55 22.2 47.8 9.9	248 44.4
	COLUMN TOTAL	109 19.5	210 37.6	124 22.2	115 20.6	558 100.0

RAW CHI SQUARE = 7.23614 WITH 3 DF. SIGNIFICANCE = .0647
CONTINGENCY COEFFICIENT = .11315
GAMMA = .05847
PEARSON'S R = .03130 SIGNIFICANCE = .2303

In regard to age differences on the importance of being popular with the opposite sex, one would certainly expect some changes as the students begin adolescence. The results in Table 9 show that this is indeed the case; the

ascribed significantly more importance to being popular

with the opposite sex in eighth grade than they did in fifth

grade. Thus the third part of hypothesis four is accepted.

TABLE 9

AGE DIFFERENCES ON IMPORTANCE

OF POPULARITY WITH THE OPPOSITE SEX

```
                      IMPSEX
              COUNT  I
             ROW PCT INOT      SOMEWHAT QUITE    VERY      ROW
             COL PCT IIMPORT.  IMPORT.  IMPORT.  IMPORT.   TOTAL
             TOT PCT I     1.I      2.I      3.I      4.I
 TIME                --------I--------I--------I--------I--------I
                2.   I    18  I    69  I    75  I   148  I    310
   8TH GRADE         I   5.8  I  22.3  I  24.2  I  47.7  I   55.6
                     I  21.7  I  49.6  I  62.0  I  68.8  I
                     I   3.2  I  12.4  I  13.4  I  26.5  I
                    -I--------I--------I--------I--------I--------I
                1.   I    65  I    70  I    46  I    67  I    248
   5TH GRADE         I  26.2  I  28.2  I  18.5  I  27.0  I   44.4
                     I  78.3  I  50.4  I  38.0  I  31.2  I
                     I  11.6  I  12.5  I   8.2  I  12.0  I
                    -I--------I--------I--------I--------I--------I
             COLUMN        83      139      121      215       558
             TOTAL       14.9     24.9     21.7     38.5     100.0

 RAW CHI SQUARE = 57.91445 WITH  3 DF.  SIGNIFICANCE =    .0000
 CONTINGENCY COEFFICIENT =  .30664
 GAMMA =  .43958
 PEARSON'S R =    .30576    SIGNIFICANCE =  .0000
```

The last part of hypothesis four posited that the imp-

ortance of getting good grades would vary by age. The find-

ings as shown in Table 10, however, show no significant age

differences in this regard. Thus the last part of hypothe-

sis four is not accepted.

TABLE 10

AGE DIFFERENCES ON IMPORTANCE

OF GETTING GOOD GRADES

```
                        IMPGRADE
               COUNT  I
               ROW PCT INOT      SOMEWHAT QUITE     VERY      ROW
               COL PCT IIMPORT.  IMPORT.  IMPORT.   IMPORT.   TOTAL
               TOT PCT I    1.I      2.I     3.I        4.I
TIME            --------I--------I--------I--------I--------I
               2.  I      4 I     15 I     52 I    239 I     310
  3TH GRADE        I    1.3 I    4.8 I   16.8 I   77.1 I    55.6
                   I   66.7 I   62.5 I   61.2 I   54.0 I
                   I     .7 I    2.7 I    9.3 I   42.8 I
               -I--------I--------I--------I--------I
               1.  I      2 I      9 I     33 I    204 I     248
  5TH GRADE        I     .8 I    3.6 I   13.3 I   82.3 I    44.4
                   I   33.3 I   37.5 I   38.8 I   46.0 I
                   I     .4 I    1.6 I    5.9 I   36.6 I
               -I--------I--------I--------I--------I
        COLUMN        6       24       85      443        558
        TOTAL      1.1      4.3     15.2     79.4      100.0

RAW CHI SQUARE =  2.31870 WITH  3 DF.  SIGNIFICANCE =   .5089
CONTINGENCY COEFFICIENT =  .06433
GAMMA = -.15340
PEARSON'S R =  -.06182    SIGNIFICANCE =  .0723
```

Emotional Reactions and Importance

In regard to testing the relationship between emotional
reactions and importance, hypothesis five predicted that the
stongest relationships would be found between importance and
emotional reaction questions dealing with the same area, and
that these relationships would be positive and significant.
As was discussed previously, only the status areas of grades,
popularity, sports, and appearance are considered in this
case. It should also be remembered that the question regard-
ing emotional reaction to appearance was phrased in a differ-

ent manner than the other questions ("I worry about how I look" versus "Suppose you did poorly at -----, how much would this bother you?").

The findings for hypothesis five are shown in Table 11. The hypothesis is supported for the areas of grades, pop- ularity, and sports, but not for the area of appearance. As Table 11 shows, emotional reaction to appearance is most highly related to importance of appearance, but not vice versa.

TABLE 11

CORRELATION COEFFICIENTS OF IMPORTANCE

WITH EMOTIONAL REACTIONS FOR STATUS AREAS

	IMPGRADE	IMPPOP	IMPSPORT	IMPLOOK
EMOTGRAD	.4804 (N= 310) P= .001	.1761 (N= 310) P= .001	.0562 (N= 310) P= .162	.0967 (N= 310) P= .045
EMOTPOP	.1010 (N= 310) P= .038	.5831 (N= 310) P= .001	.2427 (N= 310) P= .001	.4449 (N= 310) P= .001
EMOTSPRT	.1475 (N= 310) P= .005	.2362 (N= 310) P= .001	.5967 (N= 310) P= .001	.2819 (N= 310) P= .001
EMOTLOOK	.0626 (N= 310) P= .136	.1806 (N= 310) P= .001	.0374 (N= 310) P= .256	.2798 (N= 310) P= .001

(Number of cases given in parentheses)

The above results reveal an unexpectedly high correlation between importance of appearance and emotional reaction of popularity, and the correlation between importance of appearance and emotional reaction of appearance is lower than might be expected. Hopefully, the findings for hypothesis six will shed some further light on these relationships.

Hypothesis six predicted that factor analysis of the above items would yield four significant factors corresponding to each of the four areas (grades, popularity, sports, and appearance). The results of this factor analysis are shown in Table 12. (The method used for factor analysis was principal factoring with iteration involving use of the squared multiple correlation coefficients in the diagonal. This was followed by an oblimin rotation, with the number of factors based on eigenvalues greater than 1.0.)

As Table 12 shows, the factor analysis yielded three factors (accounting for 66% of the total variance). The items for sports and for grades clustered together as expected. The items for popularity and looks (appearance), however, loaded highly on only one factor and thus it appears that popularity and looks tap a common dimension. (This helps to explain the unexpectedly high correlation between the variables of Emotpop and Implook as shown in Table 11.) Thus hypothesis six, which posited four factors corresponding to the four areas, is not accepted.

TABLE 12

FACTOR PATTERN FOR IMPORTANCE

AND EMOTIONAL REACTION ITEMS

Item	Factor 1	Factor 2	Factor 3
Import. Sports	-0.07	0.01	1.02
Emot. Sports	0.18	0.03	0.51
Import. Grades	-0.07	0.70	0.13
Emot. Grades	0.07	0.70	-0.10
Import. Popular	0.69	0.04	0.04
Emot. Popular	0.79	-0.02	-0.02
Import. Looks	0.55	-0.02	0.19
Emot. Looks	0.35	0.01	-0.04

Causality and Self-Concept

Hypothesis seven was the first of two hypotheses designed to test the causal model shown in Figure 1 of Chapter III. Hypothesis seven predicted that achievement would be found to be causally related to later self-concept of academic ability. This hypothesis was tested using the methods of cross-lagged panel analysis described earlier. The results of this analysis are shown in Figure 4.

Achievement$_1$ ——————————— $(.877)$ ——————————— Achievement$_2$

$(.282)$　　　$(.365)$　　　$(.241)$　　　$(.346)$

Self-Concept ————————————————— Self-Concept
of Ability$_1$　　　　　$(.504)$　　　　　of Ability$_2$

$Z = 1.966^{*}$　　　　　$N = 245$
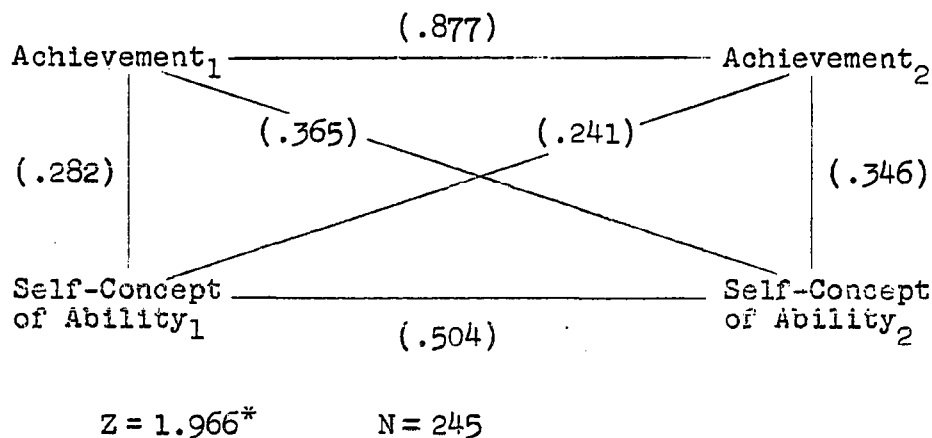
Figure 4.--Cross-Lagged Correlations for Achievement
and Self-Concept of Academic Ability

The results in Figure 4 show a significant difference
between the cross-lagged correlations, as indicated by the
Z of 1.966 which is significant at the .05 level. The fig-
ure also shows, interestingly enough, that achievement in
fifth grade is as good a predictor of self-concept of
academic ability in eighth grade as achievement in eighth
grade is. Thus there is evidence to support the hypothesis
that achievement is causally related to later self-concept
of academic ability, and thus hypothesis seven is accepted.

Hypothesis eight predicted that self-concept of aca-
demic ability would be causally related to later school
self-esteem and importance of getting good grades. Figures
5 and 6 present the appropriate cross-lagged correlations
to test this hypothesis.

Self-Concept _____ (.504) _____ Self-Concept
of Ability$_1$ of Ability$_2$

(.387)   (.397)

(.562)   (.574)

School   School
Self-Esteem$_1$ _____ Self-Esteem$_2$
                        (.415)

Z = -.155   N = 245
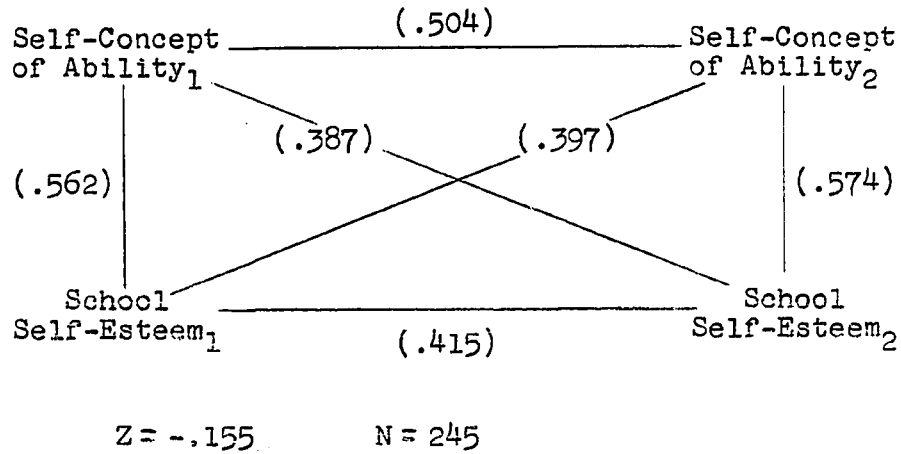
Figure 5.--Cross-Lagged Correlations for Self-Concept

of Academic Ability and School Self-Esteem

Self-Concept _____ (.504) _____ Self-Concept
of Ability$_1$ of Ability$_2$

(.071)   (.178)

(.305)   (.215)

Importance _____ Importance
Good Grades$_1$ Good Grades$_2$
                        (.175)

Z = -1.28   N = 245
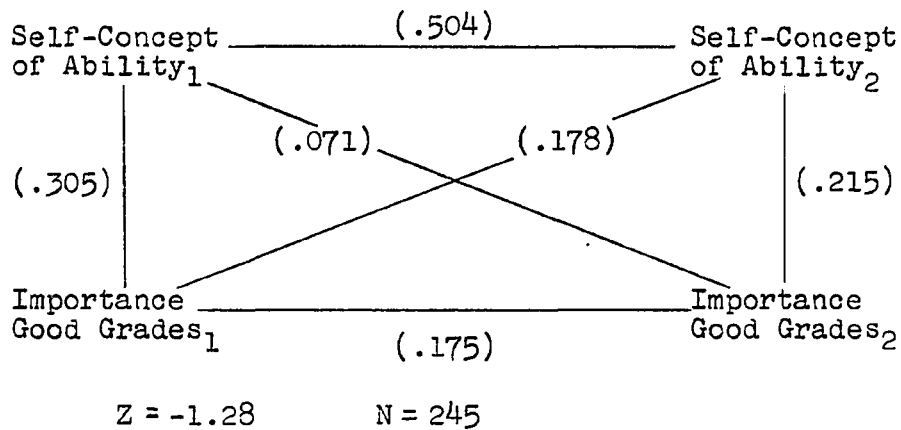
Figure 6.--Cross-Lagged Correlations for Self-Concept of

Academic Ability and Importance of Good Grades

The results shown in Figures 5 and 6 reveal no signif-
icant differences for the cross-lagged correlations of self-
concept of academic ability with school self-esteem or with
importance of getting good grades. Thus no clear causal
relationships are supported in this case, and thus hypothe-
sis eight is not accepted.

Area-Specific Self-Esteem, Self-Rating, and Importance

Since the more delimited areas of self-esteem play
a key role in several hypotheses, it is important to first
establish some support for the construct validity of these
concepts. One way to do this is to compare them with like
variables which possess construct validity (namely, home,
peer, and school self-esteem as measured by the Hare Self-
Esteem Scale). Hypothesis nine was designed with this com-
parison in mind. Hypothesis nine predicted that the strong-
est relationships would be between peer self-esteem and
self-esteem arising from popularity, appearance, athletic
ability, and friends' attitudes; between home self-esteem
and self-esteem arising from getting good grades and from
parents' attitudes; and between school self-esteem and self-
esteem arising from teachers' attitudes and from getting
good grades.

The correlations in Table 13 show support for hypothe-
sis nine. (It should be noted that since the delimited areas
of self-esteem were measured with items indicating satisfac-

tion, these variables are labeled using the prefix of "sat-", as shown in the accompanying table.) The highest correlations in each column of Table 13 are those which are predicted in hypothesis 9. Thus there is evidence supporting the construct validity of the more delimited areas of self-esteem, and thus hypothesis 9 is accepted.

TABLE 13

CORRELATION COEFFICIENTS OF

AREA-SPECIFIC SELF-ESTEEM VARIABLES

	SATFAR	SATFRND	SATTEACH	SATSPORT	SATLOOK	SATPOP	SATGRADE
HOME	.6398	.2681	.2045	.1987	.3123	.3603	.2773
	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)
	P= .001	P= .001	P= .001	P= .001	P= .001	P= .001	P= .001
PEER	.2491	.4587	.0550	.4144	.4608	.6269	.0969
	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)
	P= .001	P= .001	P= .167	P= .001	P= .001	P= .001	P= .044
SCHOOL	.2729	.2521	.5526	.1857	.1908	.2893	.5559
	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)	(N= 310)
	P= .001	P= .001	P= .001	P= .001	P= .001	P= .001	P= .001

(Number of cases given in parentheses)

Given the above results, hypothesis 10 goes one step further to establish support for the construct validity of the associated self-rating variables. Hypothesis 10 predicted that the strongest relationships would be found between the self-esteem variables and self-rating variables from the same area; i.e., the intra-area correlations will be

greater than the inter-area correlations.

All possible correlations between the self-rating variables (designated by the prefix "rat-") and the self-esteem variables (or satisfaction variables) are shown in Table 14.

TABLE 14

CORRELATION COEFFICIENTS OF

SELF-RATINGS AND SATISFACTION

	RATGRADE	RATLOOK	RATPOP	RATSPORT	RATFRND	RATTEACH	RATPAR
SATGRADE	.2280 (310) P= .001	.0562 (310) P= .162	.0298 (310) P= .300	.1149 (310) P= .022	.1009 (310) P= .038	.3415 (310) P= .001	.2001 (310) P= .001
SATLOOK	.2221 (310) P= .001	.6061 (310) P= .001	.4375 (310) P= .001	.4393 (310) P= .001	.2940 (310) P= .001	.1781 (310) P= .001	.2383 (310) P= .001
SATPOP	.2321 (310) P= .001	.4230 (310) P= .001	.5176 (310) P= .001	.3986 (310) P= .001	.4615 (310) P= .001	.3031 (310) P= .001	.3356 (310) P= .001
SATSPORT	.1905 (310) P= .001	.4060 (310) P= .001	.3452 (310) P= .001	.7413 (310) P= .001	.2551 (310) P= .001	.1769 (310) P= .001	.2325 (310) P= .001
SATFRND	.1613 (310) P= .002	.3068 (310) P= .001	.3717 (310) P= .001	.2060 (310) P= .001	.5132 (310) P= .001	.2461 (310) P= .001	.2256 (310) P= .001
SATTEACH	.2066 (310) P= .001	-.0328 (310) P= .282	-.0420 (310) P= .231	.0057 (310) P= .460	.0249 (310) P= .331	.5807 (310) P= .001	.1269 (310) P= .013
SATPAR	.1971 (310) P= .001	.2078 (310) P= .001	.2265 (310) P= .001	.1208 (310) P= .017	.2373 (310) P= .001	.3278 (310) P= .001	.6089 (310) P= .001

(Number of cases given in parentheses)

Table 14 clearly shows the diagonal elements (intra-
area correlations) to be greater than the non-diagonal
elements (inter-area correlations) with the one exception
for the area of grades. In the case of grades it is inter-
esting to note the relatively low correlation between self-
rating and satisfaction; in fact, satisfaction with grades
has a greater relationship with perceived teacher attitudes
(Ratteach) than with self-rating of academic ability (Rat-
grade). Thus hypothesis ten cannot be accepted for all
of the areas. Nevertheless, since six of the seven areas
have the expected relationships and since satisfaction with
grades has a high correlation with perceived teacher atti-
tudes (which is theoretically quite plausible), there is
at least some supporting evidence for the construct valid-
ity of the self-rating variables.

In regard to hypothesis eleven, that self-esteem (or
satisfaction) in the areas of popularity, athletic ability,
appearance, getting good grades, parental support, teachers'
support, and friends' support would all contribute signifi-
cantly to general self-esteem, the findings do not support
the hypothesis. Table 15 indicates that only three of the
areas of satisfaction (popularity, appearance, and parents'
attitudes) have significant beta weights on the prediction
of general self-esteem (as measured by Rosenberg's Self-
Esteem Scale).

TABLE 15

MULTIPLE REGRESSION OF AREAS OF

SATISFACTION ON GENERAL SELF-ESTEEM

Multiple R = .603   N = 310

Independent Variable	Simple r	Standardized Beta	Significance of Beta
Sat. Looks	.49	.25	.000
Sat. Popular	.49	.24	.000
Sat. Parents	.39	.22	.000
Sat. Sports	.41	.10	.084
Sat. Friends	.30	-.01	.925
Sat. Grades	.17	-.01	.907
Sat. Teachers	.11	-.02	.705

Although only three of the areas contribute signif-
icantly to general self-esteem, it should be noted that all
of the areas have a significant simple correlation with the
dependent variable of general self-esteem. Thus it can be
reasoned that several areas did not contribute significantly
due to substancial overlap (or multicollinearity) of the
areas. Nevertheless, hypothesis eleven is not accepted.

In regard to hypothesis twelve, that the contribution
of the areas of self-esteem (or satisfaction) to general

self-esteem, the findings support the hypothesis. Tables 16 and 17 show the multiple regression results for males and females, respectively.

TABLE 16

MULTIPLE REGRESSION OF AREAS OF SATISFACTION
ON GENERAL SELF-ESTEEM FOR MALES

Multiple R = .616   N = 146

Independent Variable	Simple r	Standardized Beta	Significance of Beta
Sat. Looks	.44	.03	.765
Sat. Popular	.53	.36	.001
Sat. Parents	.47	.28	.000
Sat. Sports	.39	.10	.226
Sat. Friends	.27	-.08	.358
Sat. Grades	.21	.00	.974
Sat. Teachers	.19	.08	.283

TABLE 17

MULTIPLE REGRESSION OF AREAS OF SATISFACTION

ON GENERAL SELF-ESTEEM FOR FEMALES

Multiple R = .600   N = 164

Independent Variable	Simple r	Standardized Beta	Significance of Beta
Sat. Looks	.50	.34	.000
Sat. Popular	.43	.22	.004
Sat. Parents	.30	.13	.089
Sat. Sports	.36	.04	.581
Sat. Friends	.35	.11	.162
Sat. Grades	.21	.04	.588
Sat. Teachers	.09	-.11	.171

It is apparent from Tables 16 and 17 that while satisfaction with popularity contributes significantly to the prediction of general self-esteem for both males and females, there are differences for the areas of appearance (looks) and parental attitudes. Satisfaction with appearance contributed significantly for females but not for males, while satisfaction with parental attitudes (toward the subject) contributed significantly for males but not for females. Thus hypothesis twelve is accepted.

It is important to point out here that interpretation
of the above results is not necessarily straightforward.
For example, the beta weights for satisfaction with looks
differ significantly for males and females, thus seeming
to indicate that satisfaction with looks has a significant
impact on general self-esteem for females but not for males.
Yet the corresponding simple r's are very high for both
females and males. Upon further investigation, this some-
what confusing situation becomes more understandable: it
turns out that the correlation between satisfaction with
looks and satisfaction with popularity is .37 for females,
but .68 for males! This fact alone points out the import-
ance of considering the degree of overlap between areas as
well as considering possible differences between groups
(such as sex, race, or social class). Also, because of this
problem of high correlations between some of the independent
variables (i.e., multicollinearity), it is wise to interpret
the above results with caution.

Hypothesis thirteeen was designed to test the model
posited in Figure 1 (Chapter III) and later elaborated
upon in Figure 2. It hypothesized that for each area the
most appropriate log-linear model would include interactions
involving all three variables (self-rating, importance, and
satisfaction). "Appropriate", in this case, means the sim-
plest model (i.e., one positing the fewest interactions)
that still fits the observed data. It should be remembered

that in testing goodness of fit, higher probability levels indicate better fits. In this case we shall consider a probability level of .90 or higher to be "significant".

The results of log-linear analysis on self-rating (R), importance (I), and satisfaction (S) in various areas are given in Table 18.

TABLE 18

LOG-LINEAR MODELS AND ASSOCIATED

PROBABILITIES FOR EACH AREA   (N = 310)

Model	Areas						
	Looks	Pop.	Sports	Grades	Parent	Friend	Teach
S,I,R	.00	.15	.00	.93	.00	.00	.00
SXI,R	.00	.92	.00	.99	.00	.03	.00
SXR,I	.99	.99	.14	.99	.22	.98	.98
IXR,S	.00	.93	.00	.99	.00	.29	.00
SXI,SXR	.99	.99	.99	.99	.99	.99	.99
IXS,IXR	.17	.99	.07	.99	.03	.94	.25
RXS,RXI	.99	.99	.99	.99	.99	.99	.99

(Probabilities based on Pearson Chi-Square fit)

Although at first glance the results in Table 18 may appear confusing, a closer inspection reveals certain patterns. With the exception of the area of grades, the simplest fitting models in each area contained interactions. Considering only the models containing one interaction, we find that the best fitting model in each case is the one positing an interaction between self-rating and satisfaction (SXR). The same holds true for the models positing two interactions: the models containing the SXR interaction are those which produce the best fit with the observed data. This is consonant with the high correlation coefficients found in Table 14.

In regard to testing hypothesis thirteen, we find that for only two areas (Parents and Sports) the most appropriate model is one involving all three variables (SXI,SXR or RXS,RXI). Thus hypothesis thirteen is not accepted.

Since the above results indicate complex relationships at best, it would be appropriate at this point to narrow the investigation to only one aspect, namely, the relationship between importance and satisfaction. Hypothesis fourteen was designed to investigate this relationship. It posited that there would be a significant curvilinear relationship between importance and satisfaction (or self-esteem) in each area. In particular, it was designed to test the model predicting minimal importance for moderate levels of satisfaction and maximum importance the two

extremes ("very satisfied" and "very dissatisfied").

One indication of the correctness of this model would be a better fit of the data using a curvilinear relationship than a linear relationship. One such curvilinear relationship is the X^2 function. Since the model predicts a minimum at the middle level of satisfaction (which is assigned the rating of 5), an appropriate fit should be obtained with $Y = (X - 5)^2$, where Y equals the importance score and X equals the satisfaction score. In each area, this should provide a better fit (stronger relationship) than the corresponding linear regression. This is done in Table 19, which compares the regression coefficients for $Y = X$ (simple linear correlation) and $Y = (X - 5)^2$.

TABLE 19

REGRESSION COEFFICIENTS FOR LINEAR AND NON-LINEAR MODELS

Model	Looks	Pop.	Sports	Grades	Parent	Friend	Teacher
$Y = X$	.163	.195	.510	.194	.290	.239	.176
$Y = (X-5)^2$	.250	.191	.573	.266	.337	.249	.301

(N = 310 for each coefficient)

The findings in Table 19 indicate that the curvilinear model of $Y = (X - 5)$ fits the data as well as or better than the simple linear model. However, it should be remembered that this comparison is based on only one specific curvilinear model, and thus a more general method should be used to test hypothesis fourteen.

One general method of testing curvilinearity involves the calculation of the statistic eta, which is a general measure of relationship which can be applied to the fit of any curve. In this case the mean importance score in each category of satisfaction will be used to describe the curve, and the fit of this curve to the data will be measured by eta. A comparison of eta to the correlation coefficient of a standard linear regression fit will determine if there is a significant deviation from linearity.

Table 19 summarizes the results of the above procedure, and indicates that for six of the seven areas there is a significant deviation from linearity. For four of these six areas the minimum of the curve lies at category 5, as expected. Thus although hypothesis fourteen cannot be accepted for all areas, there is good evidence in several areas that supports the model posited in Chapter III.

Since the relationships between importance and satisfaction for each area are not easily described, the cross-tabulations of these variables in each area are given in Appendix H.

TABLE 20

MEAN IMPORTANCE FOR EACH SATISFACTION CATEGORY IN EACH AREA

Category	Looks	Popular	Sports	Grades	Parent	Friend	Teach
1. Very Dissatis.	3.5	2.4	2.8	4.3	3.5	3.5	3.4
2. Quite Dissatis.	2.7	2.7	2.7	3.3	5.0	2.0	2.8
3. Fairly Dissatis.	3.1	2.3	2.5	3.6	4.0	2.7	3.0
4. Somewhat Dissat.	2.9	2.5	2.3	4.0	3.9	3.3	3.0
5. Neither Sat/Dis.	2.5	1.9	2.1	3.4	4.0	2.9	2.7
6. Somewhat Satis.	2.7	2.4	2.5	4.1	3.9	3.2	2.9
7. Fairly Satis.	3.0	2.7	3.0	4.0	3.8	3.4	3.2
8. Quite Satisfied	3.3	2.9	3.5	4.2	4.1	3.8	3.2
9. Very Satisfied	3.5	2.8	4.4	4.6	4.7	4.0	4.4
Eta Squared	.07	.08	.39	.11	.17	.08	.13
R Squared	.03	.04	.26	.04	.08	.06	.03
Signif. of Deviation from Linearity	.034	.041	.000	.001	.000	.300	.000

CHAPTER VI

DISCUSSION

Importance Differences

The first general question raised by this investigation
was whether or not there are significant race, sex, social
class, or age differences on the importance of certain areas.
The results indicate that there are some areas where race,
sex, and age differences exist.

In the area of importance of athletic ability, the hy-
pothesized sex difference was found as expected, but the hy-
pothesized race difference was not. Since this race differ-
ence existed in fifth grade, it could be argued that changes
in the importance of this area take place over the years,
perhaps as an indirect result of changes in other areas of
importance.

Race differences were also hypothesized for the areas
of importance of appearance, popularity, and popularity with
the opposite sex. The expected differences were found for
the areas of appearance and popularity, indicating that
blacks continue to stress the importance of these areas as
they enter adolescence. For the area of popularity with
the opposite sex, the race differences no longer exist in
eighth grade as they did in fifth grade. One possible

explanation for this may be that blacks take an earlier interest in the opposite sex (perhaps due to their apparent stress on peer values) and that whites eventually become congruent in this area. Nevertheless, it should be noted that social class differences may contribute to these results, as the previous study by Shoemaker (1979) indicates. Unfortunately, in this case the sample size of the black population is too small to fully control for social class effects.

One social class difference that was hypothesized was in regard to the importance of getting good grades. In contrast to Rosenberg's (1965) findings for the importance of being a good student, in this case no social class differences were found. Although these findings may appear at first to be contradictory, it should be recalled that Rosenberg's sample consisted of high school adolescents, and therefore it may be that these social class differences develop in later years.

In regard to age differences (fifth grade compared to eighth grade), the findings show a significant increase in the importance of appearance and popularity with the opposite sex. This latter finding is certainly to be expected, and may well be responsible for the increase of importance of appearance. No significant changes, on the other hand, were found for the importance of popularity and importance of getting good grades. Apparently the students' self-values

in these areas are formed relatively early and remain fairly stable over time.

In conclusion, the importance differences for the race, sex, and age groups suggest that these groups differ in the processes involved in self-esteem formation. Thus whenever group differences on self-esteem are posited it is vital that psychological centrality of key areas be taken into account. (Self-ratings also need to be taken into account, but these have generally not been overlooked to the extent that psychological centrality has.) Further research is needed to determine the hierarchy of psychological central-ity of the areas for each of the various groups.

The educational implications of these importance dif-ferences are twofold. First, the awareness of these dif-ferences can aid the teacher or counselor in keying in to those areas of experience which may be most crucial to changing the subject's self-esteem. Secondly, this know-ledge may prove useful in explaining motivational differ-ences, and hopefully using them to the best advantage. For example, for the student who places little importance on academic abilities but a great deal of importance on sports, the teacher may be able to interest him or her in books on sports or perhaps the calculation of batting aver-ages. In doing so, the teacher may increase the importance of academics to the student since these activities may act as secondary reinforcers.

Emotional Reactions and Importance

The second general question raised by this investigation was whether or not there is a relationship between emotional reactions and psychological centrality. The results indicate that for each area of experience, the degree of emotional reaction is positively related to the import- ance of that area. Further investigation, however, revealed that two of the areas (appearance and popularity) seem to be tapping a common dimension. One explanation for this would be to reason that importance of appearance and importance of popularity actually measure the same construct. This explanation, however, is contradicted by the fact that these two variables have quite different distributions (see Tables 7 and 8) and yielded significantly different results when compared to age changes. A more plausible explanation would be that these variables are highly related, yet still distinct constructs.

The psychological and educational implications of the relationship between importance and emotional reactions are noteworthy. First of all, awareness of the fact that emotional reactions are indicative of the psychological central- ity of an event can help the teacher or counselor understand and work on the subject's underlying value system. This, incidentally, is exactly what is done in Rational-Emotive

Therapy (Ellis, 1962). Secondly, emotional reaction items provide a viable alternative for measuring the importance of an area, particularly when the subject is essentially unsure of what his or her underlying value system really is.

Causality and Self-Concept

The third general question raised by this investigation was whether there is substancial evidence indicating causality in relationships involving school self-esteem or self-concept of academic ability. The findings show that there is causal evidence linking achievement to later self-concept of academic ability, and thus the model posited in Figure 1 (Chapter III) is supported. This is also consistent with the findings of Calsyn and Kenny (1977) since their statistics indicate that when male and female groups are combined the average crosslag difference is similar to the one found in this case.

It was also predicted that self-concept of academic abililty would be causally related to later school self-esteem and importance of getting good grades. No support was found for these causal relationships. In the case of self-concept and self-esteem, two additional aspects may explain the lack of a causal finding. The first is that it may be necessary to include the variable of importance, since it theoretically determines the extent of the relationship between self-concept and self-esteem. Secondly, it is

likely that the three year time span is too long to detect
these causal relationships. If self-concept has a causal
impact on self-esteem, it is quite probable that this effect
takes place over a relatively short period of time. The
three year time span may also have been too long to detect
a causal relationship between self-concept and importance.
Also, it is possible that in this latter case the casual
relationship is primarily reciprocal, for Rosenberg has
theorized that people value those areas in which they excell
and try to excell in those areas that they value.

The educational implication of the causal relationship
between achievement and self-concept is that efforts to
change achievement by improving self-concept are not likely
to succeed to any significant extent. Conversely, if chan-
ges in self-concept are the goal, changes in actual ability
should be stressed, since self-attribution appears to be the
key process involved (see West, Fish & Stevens, in press).

Area-Specific Self-Esteem, Self-Rating, and Importance

The final question raised by this investigation was what
the relationships are between self-esteem, self-rating, and
importance in each area, and how the areas of self-esteem
contribute to general self-esteem. To properly address this
question it was first necessary to establish some support
for the construct validity of the areas of self-rating and
self-esteem. (Note that the construct validity of areas of

importance has been supported by Rosenberg's (1965) work as well as by several results in this investigation.)

A comparison of peer, home, and school self-esteem to the seven areas of self-esteem (or satisfaction) showed that each area was correlated most highly with the appropriate larger area of self-esteem. Thus the construct validity of the seven areas is strongly supported by the results, though this is by no means to be considered as "proof". A further comparison of the seven areas of self-esteem to the respective areas of self-rating showed support for the construct validity of the latter. However, it should be noted that for the area of grades, satisfaction was more highly related to ratings of the teachers' attitudes toward the subject than to the subjects' self-rating of scholastic ability. This finding is itself noteworthy since it implies that teachers' attitudes can have an impact on the student's satisfaction with grades. Furthermore, the relatively low correlation between satisfaction with grades and self-rating of ability implies that internal standards rather than social comparisons are being used in this case.

A determination of the contribution of each area of satisfaction to overall self-esteem revealed that only three areas (appearance, popularity, and parents' attitudes) made a significant contribution. Although interpretation of this finding is difficult due to the intercorrelations between the areas, it may be possible to form some tentative

conclusions. First of all, the contribution of satisfaction with athletic ability and teachers' attitudes may be negligible simply because these areas, in themselves, do not affect self-esteem to any great extent. The contribution of satisfaction with friends' attitudes may be low due to the fact that it is highly related to popularity (the correlation turns out to be .504), and thus satisfaction with popularity has "taken up" most of the variance. The low contribution of satisfaction with grades appears to be mainly due to the fact that satisfaction with grades does not influence general self-esteem to any great extent (note the low simple r of .17). Thus in general it appears that satisfaction with peer-status areas and with parental attitudes has the greatest impact on general self-esteem.

A further examination of the above results show that there is a significant sex difference in the contribution of these areas. It appears that girls are largely responsible for the significant contribution of satisfaction with looks. This may be due to the fact that satisfaction with popularity and satisfaction with looks are correlated more highly for boys (as reported earlier), or it may be due to traditional sex role development which emphasizes the role of appearance for a girl's self-image. The boys, on the other hand, are largely responsible for the significant contribution of satisfaction with parents' attitudes. This finding is consistent with the finding of Horrocks and

Weinberg (1970), who found that for adolescent boys the
most common area of satisfaction of affection needs is in
the home.

In investigating the relationship between self-rating,
importance, and satisfaction for each area, it was found
that the results varied according to the area. In general,
log-linear analysis showed that the SXR, I model gave a
relatively good fit to the observed frequencies in a
satisfaction by rating by importance contingency table.
It should be noted that this model does not necessarily
imply that there is no relationship (or interaction) between
importance and satisfaction; this is analagous to the fact
that an insignificant beta weight does not necessarily imply
an insignificant simple correlation. In any case, these
results are not consistent enough to draw any clear con-
clusions. The reasons for this are most likely due to the
relatively small sample size (for a 5 by 7 by 9 matrix), the
amount of measurement error attributable to using one or two
items per variable, and the likelihood that the relationships
actually differ from area to area. Certainly more research
is necessary before any conclusions can be drawn.

In contrast to the above conclusions, the findings in
regard to the relationship between importance and satisfac-
tion for each area show a relatively consistent pattern.
In all but one area (friends' attitudes) the results show

a significant curvilinear relationship. In general, the
data (see Appendix H) show that when importance is low,
subjects tend to express moderate levels of satisfaction
(or dissatisfaction), but when the importance of an area
is high the subjects tend to be either very satisfied or
very dissatisfied (with the former being much more likely).
This pattern is what was predicted by the model. Never-
theless, there is one anomaly that the model did not predict.
In every area there are one or more subjects who place low
importance on the area yet express that they are very dis-
satisfied. One possible explanation for this may be that
the subject attempts to minimize his discomfort or dissat-
isfaction by trying to tell himself that this area is not
important. In other words, the subject tries to minimize
the cognitive dissonance, so to speak. Unfortunately, the
number of subjects expressing dissatisfaction in any area
is rather low and thus the patterns for that end of the
spectrum are not as clear. In contrast, the pattern for
the satisfaction side of the spectrum shows a consistent
trend from neutral/not important to very satisfied/extremely
important.

One implication of this curvilinear relationship is
the fact that importance information is conveyed by the
manner in which self-esteem items are rated: the greater
the importance of the area, the more extremely the item

will be rated. Given that this is the case, it makes sense
to use self-esteem items that contain a fairly wide range
of responses, since this allows the subject to convey in-
direct information regarding the importance of that area.
Thus if an adequate number of response categories are includ-
ed, it may be unnecessary to collect additional data regard-
ing the importance of each area. However, additional re-
search on this point is warranted before any firm recommend-
ations can be made. Nevertheless, the above results point
out a weakness in several self-esteem inventories--the most
noteworthy being Coopersmith's (1967)--that use as few as
two response categories for each item: these measures neces-
sarily lose valuable information regarding the psychological
centrality of the items.

Finally, it should be pointed out that weighting schemes
such as Watkins' (1977) should not be necessary if each self-
esteem item contains an adequate number of response categor-
ies. Since it appears that individuals who place more im-
portance on an area will rate self-esteem items in that area
more extremely, the end result is that these areas will, in
effect, receive greater weight. Thus, although importance
measures are useful and informative in their own right, it
is not absolutely necessary that they be incorporated into
future self-esteem measures.

CHAPTER VII

SUMMARY

Self-esteem research over the years has suffered from
several common problems: little work has been done on
specific areas of self-esteem (such as peer, home, or school),
few studies have been longitudinal in nature, and most
researchers neglect the fact that the areas of self-esteem
differ in importance to each individual. This investiga-
tion attempted to address these problems by primarily
focusing on four major issues, namely:

(1) Are there significant race, sex, social class,
or age differences on the importance of certain areas?

(2) What, if any, is the relationship between impor-
tance of an event or attribute and the emotional reactions
associated with it?

(3) Is there evidence indicating causality in relation-
ships involving school self-esteem or self-concept of aca-
demic ability?

(4) What are the relationships between self-esteem,
importance, and self-ratings in each area of experience,
and how do these contribute to general self-esteem?

Importance, self-rating, and satisfaction (self-esteem) were measured for seven areas of experience (appearance, athletic ability, popularity, grades, parents' attitudes, friends' attitudes, and teachers' attitudes toward the subject). The subjects were 310 eighth grade students in the Champaign school system.

The results show that blacks place more importance on appearance and popularity than whites do. Boys place a greater stress on the importance of sports than girls do. There were no social class differences on the importance of getting good grades. Comparison with data on the same subjects three years previously showed a significant increase in the importance of appearance, but not for popularity or grades. There is a significant and positive relationship between importance of an area and emotional reactions for that area.

Cross-lagged panel correlations show academic achievement to be causally related to later self-concept of academic ability (three year time lag).

The results indicated support for the construct validity of importance, self-rating, and satisfaction in each of the seven areas. The correlations between self-rating and satisfaction in each area were all high (.51 to .74) except for grades (.23).

Multiple regression on general self-esteem using the
seven areas of satisfaction revealed significant beta
weights on popularity and parents' attitudes for boys, and
on appearance and popularity for girls. Log-linear analysis
of self-rating, importance, and satisfaction for each area
showed that the areas differed as to which models best fit
the observed frequencies. Nevertheless, there was a signif-
icant self-rating by satisfaction interaction in each case.

The relationship between importance and satisfaction
in each area was found to be curvilinear, with minimal
importance at neutral and moderate levels of satisfaction
and maximal importance at the extremes ("very dissatisfied"
and "very satisfied"). This finding indicates that impor-
tance information is implicitly conveyed in self-esteem item
responses, provided there is an adequate number of response
categories.

The implications for education and measurement of self-
esteem are discussed. In short, measurement of specific
areas of self-esteem appears to be a fruitful area of
future research.

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APPENDIX A

HARE SELF-ESTEEM SCALES

PEER SELF-ESTEEM SCALE

Please circle the letter in front of the answer which best describes how you feel about the sentence. These sentences are designed to find out how you generally feel when you are with other people your age. There are no right or wrong answers.

1. I have at least as many friends as other people my age.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

2. I am not as popular as other people my age.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

3. In the kinds of things that people my age like to do, I am at least as good as most other people.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

4. People my age often pick on me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

5. Other people think I am a lot of fun to be with.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

6. I usually keep to myself because I am <u>not</u> like other
   people my age.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

7. Other people wish that they were like me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

8. I wish I were a different kind of person because I'd
   have more friends.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

9. If my group of friends decided to vote for leaders of
   their group, I'd be elected to a high position.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

10. When things get tough, I am <u>not</u> a person that other
    people my age would turn to <u>for</u> help.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

HOME SELF-ESTEEM SCALE

Please circle the letter in front of the answer which best describes how you feel about the sentence. These sentences are designed to find out how you generally feel when you are with your family. There are no right or wrong answers.

1. My parents are proud of the kind of person I am.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

2. No one pays much attention to me at home.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

3. My parents feel I can be depended on.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

4. I often feel that my parents would have been happier with a child other than me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

5. My parents try to understand me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

6. My parents expect too much of me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly disagree

7. I am an important person to my family.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

8. I often feel unwanted at home.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

9. My parents believe that I will be a success in the future.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

10. I often wish that I had been born into another family.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

SCHOOL SELF-ESTEEM SCALE

Please circle the letter in front of the answer which best
describes how you feel about the sentence. These sentences
are designed to find out how you generally feel when you are
in school. There are no right or wrong answers.

1. My teachers expect too much of me.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

2. In the kinds of things we do in school, I am at least
   as good as other people in my classes.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

3. I often feel worthless in school.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

4. I am usually proud of my report card.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

5. School is harder for me than for most other people.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

6. My teachers are usually happy with the kind of work I do.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

7. Most of my teachers do <u>not</u> understand me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

8. I am an important person in my classes.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

9. It seems that no matter how hard I try, I never get
   the grades I deserve.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

10. All and all, I feel I've been very fortunate to have had
    the kinds of teachers I've had since I sarted school.
    a. strongly disagree
    b. disagree
    c. agree
    d. strongly agree

APPENDIX B

GENERAL SELF-ESTEEM MEASURE

(ROSENBERG)

GENERAL SELF-ESTEEM MEASURE

1. I am able to do things as well as most people.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

2. I feel I do not have much to be proud of.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

3. Most people are better off than I am.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

4. I feel I have a number of good qualities.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

5. I take a positive attitude toward myself.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

6. I feel I am a worthwhile person, at least as good as most others.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

7. On the whole I am satisfied with myself.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

APPENDIX C

IMPORTANCE MEASURES

Please circle the letter in front of the answer which best indicates how you feel about the sentence. These questions are designed to find out how important certain things are to you. There are no right or wrong answers.

1. How important is it to you that you be popular?
   a. not important
   b. somewhat important
   c. quite important
   d. very important
   e. extremely important

2. How important is it to you that your friends understand you?
   a. not important
   b. somewhat important
   c. quite important
   d. very important
   e. extremely important

3. How important is it to you that you be pretty or handsome?
   a. not important
   b. somewhat important
   c. quite important
   d. very important
   e. extremely important

4. How important is it to you that you be good at sports and games?
   a. not important
   b. somewhat important
   c. quite important
   d. very important
   e. extremely important

5. How important is it to you that your teachers understand you?
   a. not important
   b. somewhat important
   c. quite important
   d. very important
   e. extremely important

6. How important is it to you that your parents understand you?
   a. not important
   b. somewhat important
   c. quite important
   d. very important
   e. extremely important

7. How important is it to you that you get good grades?
    a. not important
    b. somewhat important
    c. quite important
    d. very important
    e. extremely important

8. How important is it to you that you be popular with
   the opposite sex?
    a. not important
    b. somewhat important
    c. quite important
    d. very important
    e. extremely important

APPENDIX D

EMOTIONAL REACTION MEASURES

1. Suppose you did poorly at sports and games. How much would this bother you?
   a. not at all
   b. very little
   c. somewhat
   d. quite a bit
   e. very much

2. Suppose you got very poor grades. How much would this bother you?
   a. not at all
   b. very little
   c. somewhat
   d. quite a bit
   e. very much

3. Suppose you were not very popular. How much would this bother you?
   a. not at all
   b. very little
   c. somewhat
   d. quite a bit
   e. very much

4. I worry about my appearance.
   a. often
   b. sometimes
   c. rarely
   d. never

APPENDIX E

SELF-CONCEPT OF ACADEMIC ABILITY

(BROOKOVER)

SELF-CONCEPT OF ACADEMIC ABILITY

1. How do your parents feel about the grades you get in school?
   a. very well satisfied
   b. satisfied
   c. rather dissatisfied
   d. dissatisfied

2. How do you rate yourself in school ability compared with those in your class at school?
   a. I am the best
   b. I am above average
   c. I am average
   d. I am below average
   e. I am the poorest

3. Do your think you have the ability to go to college?
   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. no

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?
   a. very likely
   b. somewhat likely
   c. not sure either way
   d. unlikely
   e. most unlikely

5. Forget for a moment how others grade your school work. In your own opinion, how good do YOU think your work is?
   a. my work is excellent
   b. my work is good
   c. my work is average
   d. my work is below average
   e. my work is much below average

APPENDIX F

SELF-RATING MEASURES

1. How would you rate yourself in sports skill compared to others your age?
   a. one of the poorest
   b. much below average
   c. somewhat below average
   d. average
   e. somewhat above average
   f. much above average
   g. one of the best

2. How would you rate yourself in appearance compared to others your age?
   a. one of the poorest
   b. much below average
   c. somewhat below average
   d. average
   e. somewhat above average
   f. much above average
   g. one of the best

3. How would you rate yourself in popularity compared to others your age?
   a. one of the least popular
   b. much below average
   c. somewhat below average
   d. average
   e. somewhat above average
   f. much above average
   g. one of the most popular

4. I am not as popular as other people my age.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

5. How do you rate yourself in school ability compared with those in your class at school?
   a. I am the best
   b. I am above average
   c. I am average
   d. I am below average
   e. I am the poorest

6. In the kinds of things we do in school, I am at least as good as other people in my classes.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

7. As far as you know, how much are your teachers interested in you?
   a. very much
   b. quite a bit
   c. somewhat
   d. not at all

8. Most of my teachers do not understand me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

9. As far as you know, how much are your parents interested in you?
   a. very much
   b. quite a bit
   c. somewhat
   d. not at all

10. My parents try to understand me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

11. As far as you know, how much are your friends interested in you?
   a. very much
   b. quite a bit
   c. somewhat
   d. not at all

12. Most of my friends do not understand me.
   a. strongly disagree
   b. disagree
   c. agree
   d. strongly agree

APPENDIX G

SATISFACTION MEASURES

The following questions are designed to find out how satisfied or dissatisfied you are with various areas. Please circle the number in front of the answer which best describes your feelings about the area. Remember there are no right or wrong answers.

1. How do you feel about your grades?
     1. very dissatisfied
     2. quite dissatisfied
     3. fairly dissatisfied
     4. somewhat dissatisfied
     5. neither satisfied or dissatisfied
     6. somewhat satisfied
     7. fairly satisfied
     8. quite satisfied
     9. very satisfied

2. How do you feel about your appearance?
     1. very dissatisfied
     2. quite dissatisfied
     3. fairly dissatisfied
     4. somewhat dissatisfied
     5. neither satisfied or dissatisfied
     6. somewhat satisfied
     7. fairly satisfied
     8. quite satisfied
     9. very satisfied

3. How do you feel about your skill at sports and games?
     1. very dissatisfied
     2. quite dissatisfied
     3. fairly dissatisfied
     4. somewhat dissatisfied
     5. neither satisfied or dissatisfied
     6. somewhat satisfied
     7. fairly satisfied
     8. quite satisfied
     9. very satisfied

4. How do you feel about your popularity?
     1. very dissatisfied
     2. quite dissatisfied
     3. fairly dissatisfied
     4. somewhat dissatisfied
     5. neither satisfied or dissatisfied
     6. somewhat satisfied
     7. fairly satisfied
     8. quite satisfied
     9. very satisfied

5. How do you feel about your friends' attitudes toward you?
    1. very dissatisfied
    2. quite dissatisfied
    3. fairly dissatisfied
    4. somewhat dissatisfied
    5. neither satisfied or dissatisfied
    6. somewhat satisfied
    7. fairly satisfied
    8. quite satisfied
    9. very satisfied

6. How do you feel about your teachers' attitudes toward you?
    1. very dissatisfied
    2. quite dissatisfied
    3. fairly dissatisfied
    4. somewhat dissatisfied
    5. neither satisfied or dissatisfied
    6. somewhat dissatisfied
    7. fairly satisfied
    8. quite satisfied
    9. very satisfied

7. How do you feel about your parents' attitudes toward you?
    1. very dissatisfied
    2. quite dissatisfied
    3. fairly dissatisfied
    4. somewhat dissatisfied
    5. neither satisfied or dissatisfied
    6. somewhat satisfied
    7. fairly satisfied
    8. quite satisfied
    9. very satisfied

APPENDIX H

IMPORTANCE BY SATISFACTION DATA

SATLOOK

COUNT / ROW PCT / COL PCT / TOT PCT	VERY DISSAT 1	QUITE DISSAT 2	FAIRLY DISSAT 3	SOMEWHAT DISSAT 4	NEITHER NEUTRAL 5	SOMEWHAT SATIS 6	FAIRLY SATIS 7	QUITE SATIS 8	VERY SATIS 9	ROW TOTAL
IMPLOOK										
1 NOT IMPORTANT	1 / 3.0 / 16.7 / .3	0 / 0 / 0 / 0	1 / 3.0 / 11.1 / .3	2 / 6.1 / 12.5 / .6	9 / 27.3 / 21.4 / 2.9	7 / 21.2 / 13.0 / 2.3	3 / 9.1 / 4.3 / 1.0	2 / 6.1 / 3.1 / .6	8 / 24.2 / 17.4 / 2.6	33 / 10.6
2 SOMEWHAT IMPORT.	1 / 1.3 / 16.7 / .3	1 / 1.3 / 33.3 / .3	2 / 2.6 / 22.2 / .6	4 / 5.2 / 25.0 / 1.3	13 / 16.9 / 31.0 / 4.2	18 / 23.4 / 33.3 / 5.8	19 / 24.7 / 27.1 / 6.1	16 / 20.8 / 25.0 / 5.2	3 / 3.9 / 6.5 / 1.0	77 / 24.8
3 QUITE IMPORT.	0 / 0 / 0 / 0	2 / 2.3 / 66.7 / .6	2 / 2.3 / 22.2 / .6	3 / 3.4 / 18.8 / 1.0	11 / 12.6 / 26.2 / 3.5	14 / 16.1 / 25.9 / 4.5	27 / 31.0 / 38.6 / 8.7	18 / 20.7 / 28.1 / 5.8	10 / 11.5 / 21.7 / 3.2	87 / 28.1
4 VERY IMPORTANT	2 / 2.6 / 33.3 / .6	0 / 0 / 0 / 0	3 / 3.9 / 33.3 / 1.0	7 / 9.2 / 43.8 / 2.3	8 / 10.5 / 19.0 / 2.6	13 / 17.1 / 24.1 / 4.2	16 / 21.1 / 22.9 / 5.2	18 / 23.7 / 28.1 / 5.8	9 / 11.8 / 19.6 / 2.9	76 / 24.5
5 EXTREMELY IMPORT	2 / 5.4 / 33.3 / .6	0 / 0 / 0 / 0	1 / 2.7 / 11.1 / .3	0 / 0 / 0 / 0	1 / 2.7 / 2.4 / .3	2 / 5.4 / 3.7 / .6	5 / 13.5 / 7.1 / 1.6	10 / 27.0 / 15.6 / 3.2	16 / 43.2 / 34.8 / 5.2	37 / 11.9
COLUMN TOTAL	6 / 1.9	3 / 1.0	9 / 2.9	16 / 5.2	42 / 13.5	54 / 17.4	70 / 22.6	64 / 20.6	46 / 14.8	310 / 100.0

RAW CHI SQUARE =   67.80073 WITH   32 DEGREES OF FREEDOM. SIGNIFICANCE =   .0002
GAMMA =   .20868
PEARSON'S R =   .16322   SIGNIFICANCE =   .0020

* * * * * * * * * * * * * * * C R O S S T A B U L A T I O N   O F * * * * * * * * * * * * * * * *
   IMPSPORT IMPORTANCE OF SPORTS ABILITY   BY SATSPORT SATISFACTION WITH SPORTS ABILITY
* PAGE 1 OF 1

		VERY DISSAT 1	QUITE DISSAT 2	FAIRLY DISSAT 3	SOMEWHAT DISSAT 4	NEITHER NEUTRAL 5	SOMEWHAT SATIS 6	FAIRLY SATIS 7	QUITE SATIS 8	VERY SATIS 9	ROW TOTAL
IMPSPORT	COUNT / ROW PCT / COL PCT / TOT PCT										
NOT IMPORTANT	1	4 / 15.4 / 30.8 / 1.3	0 / 0 / 0 / 0	1 / 3.8 / 12.5 / .3	3 / 11.5 / 17.6 / 1.0	6 / 23.1 / 21.4 / 1.9	3 / 11.5 / 9.7 / 1.0	1 / 3.8 / 2.5 / .3	5 / 19.2 / 7.5 / 1.6	3 / 11.5 / 3.0 / 1.0	26 / 8.4
SOMEWHAT IMPORT.	2	2 / 2.7 / 15.4 / .6	4 / 5.5 / 66.7 / 1.3	3 / 4.1 / 37.5 / 1.0	8 / 11.0 / 47.1 / 2.6	16 / 21.9 / 57.1 / 5.2	18 / 24.7 / 58.1 / 5.8	14 / 19.2 / 35.0 / 4.5	5 / 6.8 / 7.5 / 1.6	3 / 4.1 / 3.0 / 1.0	73 / 23.5
QUITE IMPORT.	3	2 / 3.2 / 15.4 / .6	1 / 1.6 / 16.7 / .3	3 / 4.8 / 37.5 / 1.0	4 / 6.3 / 23.5 / 1.3	4 / 6.3 / 14.3 / 1.3	4 / 6.3 / 12.9 / 1.3	12 / 19.0 / 30.0 / 3.9	23 / 36.5 / 34.3 / 7.4	10 / 15.9 / 10.0 / 3.2	63 / 20.3
VERY IMPORTANT	4	3 / 4.4 / 23.1 / 1.0	0 / 0 / 0 / 0	1 / 1.5 / 12.5 / .3	2 / 2.9 / 11.8 / .6	2 / 2.9 / 7.1 / .6	5 / 7.4 / 16.1 / 1.6	11 / 16.2 / 27.5 / 3.5	21 / 30.9 / 31.3 / 6.8	23 / 33.8 / 23.0 / 7.4	68 / 21.9
EXTREMELY IMPORT	5	2 / 2.5 / 15.4 / .6	1 / 1.2 / 16.7 / .3	0 / 0 / 0 / 0	0 / 0 / 0 / 0	0 / 0 / 0 / 0	1 / 1.2 / 3.2 / .3	2 / 2.5 / 5.0 / .6	13 / 16.2 / 19.4 / 4.2	61 / 76.3 / 61.0 / 19.7	80 / 25.8
COLUMN TOTAL		13 / 4.2	6 / 1.9	8 / 2.6	17 / 5.5	28 / 9.0	31 / 10.0	40 / 12.9	67 / 21.6	100 / 32.3	310 / 100.0

RAW CHI SQUARE =   189.15975 WITH   32 DEGREES OF FREEDOM. SIGNIFICANCE = .0000
GAMMA =   .61634
PEARSON'S R =   .51032   SIGNIFICANCE = .0000

SATPOP

COUNT ROW PCT COL PCT TOT PCT	VERY DISSAT 1	QUITE DISSAT 2	FAIRLY DISSAT 3	SOMEWHAT DISSAT 4	NEITHER NEUTRAL 5	SOMEWHAT SATIS 6	FAIRLY SATIS 7	QUITE SATIS 8	VERY SATIS 9	ROW TOTAL
IMPPOP										
1 NOT IMPORTANT	4 / 7.0 / 57.1 / 1.3	0 / 0 / 0 / 0	2 / 3.5 / 28.6 / .6	4 / 7.0 / 21.1 / 1.3	18 / 31.6 / 34.6 / 5.8	7 / 12.3 / 13.2 / 2.3	7 / 12.3 / 11.5 / 2.3	8 / 14.0 / 11.9 / 2.6	7 / 12.3 / 17.1 / 2.3	57 / 18.4
2 SOMEWHAT IMPORT.	0 / 0 / 0 / 0	1 / .9 / 33.3 / .3	1 / .9 / 14.3 / .3	7 / 6.3 / 36.8 / 2.3	24 / 21.6 / 46.2 / 7.7	27 / 24.3 / 50.9 / 8.7	21 / 18.9 / 34.4 / 6.8	16 / 14.4 / 23.9 / 5.2	14 / 12.6 / 34.1 / 4.5	111 / 35.8
3 QUITE IMPORT.	0 / 0 / 0 / 0	2 / 2.4 / 66.7 / .6	4 / 4.9 / 57.1 / 1.3	5 / 6.1 / 26.3 / 1.6	8 / 9.8 / 15.4 / 2.6	13 / 15.9 / 24.5 / 4.2	19 / 23.2 / 31.1 / 6.1	24 / 29.3 / 35.8 / 7.7	7 / 8.5 / 17.1 / 2.3	82 / 26.5
4 VERY IMPORTANT	2 / 5.0 / 28.6 / .6	0 / 0 / 0 / 0	0 / 0 / 0 / 0	1 / 2.5 / 5.3 / .3	0 / 0 / 0 / 0	4 / 10.0 / 7.5 / 1.3	9 / 22.5 / 14.8 / 2.9	16 / 40.0 / 23.9 / 5.2	8 / 20.0 / 19.5 / 2.6	40 / 12.9
5 EXTREMELY IMPORT	1 / 5.0 / 14.3 / .3	0 / 0 / 0 / 0	0 / 0 / 0 / 0	2 / 10.0 / 10.5 / .6	2 / 10.0 / 3.8 / .6	2 / 10.0 / 3.8 / .6	5 / 25.0 / 8.2 / 1.6	3 / 15.0 / 4.5 / 1.0	5 / 25.0 / 12.2 / 1.6	20 / 6.5
COLUMN TOTAL	7 / 2.3	3 / 1.0	7 / 2.3	19 / 6.1	52 / 16.8	53 / 17.1	61 / 19.7	67 / 21.6	41 / 13.2	310 / 100.0

RAW CHI SQUARE =   66.84923 WITH   32 DEGREES OF FREEDOM. SIGNIFICANCE =   .0003
GAMMA =   .24028
PEARSON'S R =   .19515   SIGNIFICANCE =   .0003

* * * * * * * * * * * * * * * * C R O S S T A B U L A T I O N   O F * * * * * * * * * * * * * * * *
  IMPGRADE IMPORTANCE OF GRADES   BY SATGRADE SATISFACTION WITH GRADES
* PAGE 1 OF 1

SATGRADE

COUNT ROW PCT COL PCT TOT PCT	VERY DISSAT 1	QUITE DISSAT 2	FAIRLY DISSAT 3	SOMEWHAT DISSAT 4	NEITHER NEUTRAL 5	SOMEWHAT SATIS 6	FAIRLY SATIS 7	QUITE SATIS 8	VERY SATIS 9	ROW TOTAL
IMPGRADE										
1 NOT IMPORTANT	1 / 25.0 / 7.1 / .3	0 / 0 / 0 / 0	0 / 0 / 0 / 0	0 / 0 / 0 / 0	2 / 50.0 / 7.1 / .6	0 / 0 / 0 / 0	1 / 25.0 / 1.5 / .3	0 / 0 / 0 / 0	0 / 0 / 0 / 0	4 / 1.3
2 SOMEWHAT IMPORT.	0 / 0 / 0 / 0	1 / 6.7 / 33.3 / .3	1 / 6.7 / 12.5 / .3	0 / 0 / 0 / 0	4 / 26.7 / 14.3 / 1.3	3 / 20.0 / 8.3 / 1.0	4 / 26.7 / 6.2 / 1.3	2 / 13.3 / 2.3 / .6	0 / 0 / 0 / 0	15 / 4.8
3 QUITE IMPORT.	0 / 0 / 0 / 0	0 / 0 / 0 / 0	3 / 5.8 / 37.5 / 1.0	6 / 11.5 / 24.0 / 1.9	9 / 17.3 / 32.1 / 2.9	7 / 13.5 / 19.4 / 2.3	12 / 23.1 / 18.5 / 3.9	13 / 25.0 / 15.1 / 4.2	2 / 3.8 / 4.4 / .6	52 / 16.8
4 VERY IMPORTANT	6 / 5.7 / 42.9 / 1.9	2 / 1.9 / 66.7 / .6	2 / 1.9 / 25.0 / .6	12 / 11.3 / 48.0 / 3.9	6 / 5.7 / 21.4 / 1.9	9 / 8.5 / 25.0 / 2.9	23 / 21.7 / 35.4 / 7.4	34 / 32.1 / 39.5 / 11.0	12 / 11.3 / 26.7 / 3.9	106 / 34.2
5 EXTREMELY IMPORT	7 / 5.3 / 50.0 / 2.3	0 / 0 / 0 / 0	2 / 1.5 / 25.0 / .6	7 / 5.3 / 28.0 / 2.3	7 / 5.3 / 25.0 / 2.3	17 / 12.8 / 47.2 / 5.5	25 / 18.8 / 38.5 / 8.1	37 / 27.8 / 43.0 / 11.9	31 / 23.3 / 68.9 / 10.0	133 / 42.9
COLUMN TOTAL	14 / 4.5	3 / 1.0	8 / 2.6	25 / 8.1	28 / 9.0	36 / 11.6	65 / 21.0	86 / 27.7	45 / 14.5	310 / 100.0

RAW CHI SQUARE =   64.91160 WITH   32 DEGREES OF FREEDOM. SIGNIFICANCE =   .0005
GAMMA =   .25818
PEARSON'S R =   .19436   SIGNIFICANCE =   .0003

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COUNT ROW PCT COL PCT TOT PCT	VERY DISSAT 1	QUITE DISSAT 2	FAIRLY DISSAT 3	SOMEWHAT DISSAT 4	NEITHER NEUTRAL 5	SOMEWHAT SATIS 6	FAIRLY SATIS 7	QUITE SATIS 8	VERY SATIS 9	ROW TOTAL
IMPPAR										
1 NOT IMPORTANT	2 28.6 28.6 .6	0 0 0 0	0 0 0 0	1 14.3 7.7 .3	0 0 0 0	0 0 0 0	3 42.9 7.5 1.0	1 14.3 1.3 .3	0 0 0 0	7 2.3
2 SOMEWHAT IMPORT.	0 0 0 0	0 0 0 0	1 10.0 25.0 .3	0 0 0 0	3 30.0 17.6 1.0	2 20.0 10.5 .6	1 10.0 2.5 .3	2 20.0 2.6 .6	1 10.0 .8 .3	10 3.2
3 QUITE IMPORT.	0 0 0 0	0 0 0 0	0 0 0 0	4 9.3 30.8 1.3	2 4.7 11.8 .6	4 9.3 21.1 1.3	13 30.2 32.5 4.2	14 32.6 17.9 4.5	6 14.0 4.6 1.9	43 13.9
4 VERY IMPORTANT	3 3.7 42.9 1.0	0 0 0 0	1 1.2 25.0 .3	2 2.4 15.4 .6	4 4.9 23.5 1.3	7 8.5 36.8 2.3	9 11.0 22.5 2.9	33 40.2 42.3 10.6	23 28.0 17.7 7.4	82 26.5
5 EXTREMELY IMPORT	2 1.2 28.6 .6	2 1.2 100.0 .6	2 1.2 50.0 .6	6 3.6 46.2 1.9	8 4.8 47.1 2.6	6 3.6 31.6 1.9	14 8.3 35.0 4.5	28 16.7 35.9 9.0	100 59.5 76.9 32.3	168 54.2
COLUMN TOTAL	7 2.3	2 .6	4 1.3	13 4.2	17 5.5	19 6.1	40 12.9	78 25.2	130 41.9	310 100.0

RAW CHI SQUARE = 117.51821 WITH   32 DEGREES OF FREEDOM. SIGNIFICANCE =   .0000
GAMMA =   .44012
PEARSON'S R =   .29036   SIGNIFICANCE = .0000

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COUNT ROW PCT COL PCT TOT PCT	VERY DISSAT 1	QUITE DISSAT 2	FAIRLY DISSAT 3	SOMEWHAT DISSAT 4	NEITHER NEUTRAL 5	SOMEWHAT SATIS 6	FAIRLY SATIS 7	QUITE SATIS 8	VERY SATIS 9	ROW TOTAL
IMPFRND										
1 NOT IMPORTANT	1 5.6 25.0 .3	0 0 0 0	1 5.6 33.3 .3	3 16.7 25.0 1.0	5 27.8 17.9 1.6	1 5.6 2.8 .3	3 16.7 3.5 1.0	1 5.6 1.0 .3	3 16.7 7.3 1.0	18 5.8
2 SOMEWHAT IMPORT.	0 0 0 0	1 2.1 100.0 .3	0 0 0 0	1 2.1 8.3 .3	7 14.6 25.0 2.3	11 22.9 30.6 3.5	13 27.1 15.1 4.2	12 25.0 12.1 3.9	3 6.3 7.3 1.0	48 15.5
3 QUITE IMPORT.	1 1.3 25.0 .3	0 0 0 0	1 1.3 33.3 .3	2 2.7 16.7 .6	6 8.0 21.4 1.9	8 10.7 22.2 2.6	29 38.7 33.7 9.4	24 32.0 24.2 7.7	4 5.3 9.8 1.3	75 24.2
4 VERY IMPORTANT	0 0 0 0	0 0 0 0	1 1.1 33.3 .3	1 1.1 8.3 .3	5 5.6 17.9 1.6	11 12.2 30.6 3.5	29 32.2 33.7 9.4	31 34.4 31.3 10.0	12 13.3 29.3 3.9	90 29.0
5 EXTREMELY IMPORT	2 2.5 50.0 .6	0 0 0 0	0 0 0 0	5 6.3 41.7 1.6	5 6.3 17.9 1.6	5 6.3 13.9 1.6	12 15.2 14.0 3.9	31 39.2 31.3 10.0	19 24.1 46.3 6.1	79 25.5
COLUMN TOTAL	4 1.3	1 .3	3 1.0	12 3.9	28 9.0	36 11.6	86 27.7	99 31.9	41 13.2	310 100.0

RAW CHI SQUARE = 73.46124 WITH   32 DEGREES OF FREEDOM. SIGNIFICANCE =   .0000
GAMMA =   .28613
PEARSON'S R =   .23866   SIGNIFICANCE = .0000

COUNT ROW PCT COL PCT TOT PCT	SATTEACH VERY DISSAT 1	QUITE DISSAT 2	FAIRLY DISSAT 3	SOMEWHAT DISSAT 4	NEITHER NEUTRAL 5	SOMEWHAT SATIS 6	FAIRLY SATIS 7	QUITE SATIS 8	VERY SATIS 9	ROW TOTAL
IMPTEACH										
1 NOT IMPORTANT	5 / 15.6 / 25.0 / 1.6	0 / 0 / 0 / 0	2 / 6.3 / 28.6 / .6	5 / 15.6 / 20.0 / 1.6	8 / 25.0 / 16.0 / 2.6	3 / 9.4 / 7.1 / 1.0	4 / 12.5 / 5.7 / 1.3	5 / 15.6 / 8.5 / 1.6	0 / 0 / 0 / 0	32 / 10.3
2 SOMEWHAT IMPORT.	0 / 0 / 0 / 0	2 / 2.9 / 50.0 / .6	1 / 1.5 / 14.3 / .3	5 / 7.4 / 20.0 / 1.6	17 / 25.0 / 34.0 / 5.5	14 / 20.6 / 33.3 / 4.5	19 / 27.9 / 27.1 / 6.1	8 / 11.8 / 13.6 / 2.6	2 / 2.9 / 6.1 / .6	68 / 21.9
3 QUITE IMPORT.	5 / 6.0 / 25.0 / 1.6	1 / 1.2 / 25.0 / .3	1 / 1.2 / 14.3 / .3	5 / 6.0 / 20.0 / 1.6	12 / 14.5 / 24.0 / 3.9	15 / 18.1 / 35.7 / 4.8	17 / 20.5 / 24.3 / 5.5	24 / 28.9 / 40.7 / 7.7	3 / 3.6 / 9.1 / 1.0	83 / 26.8
4 VERY IMPORTANT	3 / 4.3 / 15.0 / 1.0	1 / 1.4 / 25.0 / .3	1 / 1.4 / 14.3 / .3	5 / 7.1 / 20.0 / 1.6	10 / 14.3 / 20.0 / 3.2	4 / 5.7 / 9.5 / 1.3	20 / 28.6 / 28.6 / 6.5	17 / 24.3 / 28.8 / 5.5	9 / 12.9 / 27.3 / 2.9	70 / 22.6
5 EXTREMELY IMPORT	7 / 12.3 / 35.0 / 2.3	0 / 0 / 0 / 0	2 / 3.5 / 28.6 / .6	5 / 8.8 / 20.0 / 1.6	3 / 5.3 / 6.0 / 1.0	6 / 10.5 / 14.3 / 1.9	10 / 17.5 / 14.3 / 3.2	5 / 8.8 / 8.5 / 1.6	19 / 33.3 / 57.6 / 6.1	57 / 18.4
COLUMN TOTAL	20 / 6.5	4 / 1.3	7 / 2.3	25 / 8.1	50 / 16.1	42 / 13.5	70 / 22.6	59 / 19.0	33 / 10.6	310 / 100.0

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RAW CHI SQUARE =    91.72176 WITH    32 DEGREES OF FREEDOM,  SIGNIFICANCE =    .0000
GAMMA =    .23103
PEARSON'S R =    .17601    SIGNIFICANCE =   .0009
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VITA

Allen Leslie Shoemaker was born December 26, 1952, in Grand Rapids, Michigan. He attended elementary and secondary schools in Grand Rapids, and in 1971 he received the Bausch and Lomb Science Award. He attended Calvin College and graduated cum laude in 1975 with a Bachelor of Science degree.

During 1977-78 he served as Instructor of Psychology at Calvin College. He received his Master of Science degree in Educational Psychology from the University of Illinois at Urbana-Champaign in May 1979. His interests have been in the areas of ·psychological education, statistics, and computer-aided instruction.

From 1978 to 1980 Mr. Shoemaker held consecutive University Fellowships at the University of Illinois. He is the author of "Construct validity of area-specific self-esteem: the Hare Self-Esteem Scale", published in Educational and Psychological Measurement.

Mr. Shoemaker is currently serving as Assistant Professor of Psychology at Calvin College. He is affiliated with the American Psychological Association and the American Educational Research Association.