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RECREATIONAL RESOURCES IN CHAMPAIGN, ILLINOIS: COMPARING RACIAL DIFFERENCES IN PARK USAGE AND PROCLIVITY FOR RESIDUAL OPEN SPACE

BY

MATTHEW OKPANI ALU

B.A., University of Washington, 1980
M.A., University of Washington, 1982

THESIS

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Director of Thesis Research

Head of Department

Committee on Final Examination†

Chairperson

† Required for doctor's degree but not for master's.

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Abstract

In this study I examine the relationship between race and recreational usage of park, and proclivity to use residual open space (ROS) in Champaign, Illinois. I investigate three related research questions:

1. differences in utilization of conventional park facilities between African-American and White-American households;
2. factors accounting for such differences, and
3. proclivity for residual open space as a recreational resource.

The answer to these research questions lead to the formulation of expanded testable null hypotheses. I hypothesized that African-Americans and Whites exhibit similarity in their usage of park and proclivity for residual open space in the study area.

I draw upon distinct theoretical and methodological perspectives. Data were categorized into nominal-level scaling and analyzed first by descriptive statistics to uncover observable tendency. Fifteen null hypotheses were tested and the existence of relationships determined by the Chi-Square statistic. Strength of relationships was examined by Cramer's V statistic.

The results refute most of the hypotheses. Some of the results support and some refute the findings of earlier studies. This study contributes not only to the ongoing debate on race and recreation, but more importantly, to the issue of residual open space usage. It is recommended that future research be more comprehensive to include other racial groups.

Dedication

I dedicate this work to the memory of my late parents.

Acknowledgments

I wish to acknowledge those who contributed in some way to my success. Thanks to my committee members: Professor David Wilson, Department of Geography, who patiently played the role of advising and chairing the committee; Professor John Jakle, Department of Geography, for his frank and helpful advice at every stage. Professor Kenneth M. Reardon, Department of Urban and Regional Planning, for his support even beyond his academic role. He was a real source of encouragement at every stage of my study.

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CHAPTER 1

THE PROBLEM

1.1. Introduction

In society today recreation is an important aspect of daily life and there has been a steady growth in different types of outdoor recreation in the United States.[1] Leisure, defined in this study as time free from work to be used at one's own discretion, encompasses different activities and behaviors[2]. In this study, the words 'leisure' and 'recreation' are used interchangeably.

While studies on recreational differences and life styles in other cities in the United States, are numerous (see, for example, Kronus, 1971; Craig, 1972; Meeker, Woods, and Lucas, 1973; Noel, 1974; Willie, 1974; Blackwell, 1985; White, 1975; Washburne, 1978; Dottavio, O'Leary and Koth, 1980; Kelly, 1980; Wendling, 1980; Edwards, 1981; McMillen, 1983; Stamps and Stamps, 1985; Woodard, 1988; Stokowski, 1990; Heywood, 1993; Floyd et. al. 1993), none has examined racial differences in the utilization of outdoor recreational opportunities offered by parks and the propensity to use residual open space (ROS) as a recreational resource.[3]

A focus on a single Mid-West city, the City of Champaign, is deemed appropriate since the interest in this study is not to generalize. This single approach is in line with Johnston's (1983),

concept of "transcendental realism"[4] which suggests that although generalization is necessary in creating a universal law, details are lost at the same time. Johnston (1983:28), recognizes this problem in his philosophical discussion of transcendental realism. Accordingly, he argues that "direct or naive realism" is based on the assumption that there is an objective world, comprising individual behavior, and the results of that behavior can be observed and recorded in an objective manner, on universally agreed criteria, or law; transcendental realism on the other hand involves law-governed world independent of man (op. cit.). The basic tenet in this case is that "perception gives us access to things and experimental activity access to structures that exist independently of us."[5]

An empirical study of a single city, in this case, the City of Champaign, Illinois, leads to a better understanding of the relationship between racial groups usage of recreational opportunities and proclivity to use residual open space in the city. My thesis which analyzes space and place (neighborhood households, parks and residual open spaces), usage is a human phenomenon which fits into the (transcendental realism) social science paradigm literature. Such systematic approach presents a better picture on relationships that exist. Integration of many similar case studies on different cities will result in a comprehensive regional picture.

In my assessment of Champaign Illinois, Blacks represent the second largest racial group of people as in most United States

cities. How their interest, perception, use of neighborhood parks, and proclivity for residual open space as a recreational resource compares to those of Whites is an urban social phenomenon worthy of empirical investigation.

Understanding the recreational usage of parks and residual open spaces of populations becomes important for numerous reasons. Perhaps most recreational activities are behaviors learned in social contexts which have developed to make sense in and of that society, and are a significant part of learning and living in a society.[6] Being a sociocultural behavior, recreation has spatial dimensions. This spatial aspect of recreation needs to be considered for an understanding of recreation as a way of fostering social integration as well as reducing the problems of alienation and stress among people.

Environmental impingement specific to geographic regions determine the way in which recreation as a cultural phenomenon is manifested by residents of such regions (Miller, 1987; Craig, 1972; Woodard, 1988). The pattern of recreation is, thus, a reflection of sociocultural attributes within locational boundaries such as parks and residual open spaces. This makes recreation a subject for geographic and other scholarly inquiry.

Any aspect of social behavior such as recreation which relates individuals and groups to a locale (see Figure 2 and Appendix A), requires a strong empirical understanding. A field survey is often used to gather the necessary information on

such dynamics. In this study, I correlate socioeconomic and demographic (independent) variables: race age, education, income, and gender with dependent variables: perception, constraints, frequency of use, to examine how they relate to differences in recreational usage of parks and residual open spaces between the two racial groups.

Recreation as an aspect of leisure may be pursued in many ways, and outdoor recreation is one important option with spatial dimensions. In this respect, Sutton-Smith and Roberts J. Play (1982:425), argue that recreation has biological as well as psychological and cultural dimensions, because some recreational behaviors and activities appear to be passed from one generation to another in many societies.[7]

O'Leary and Benjamin (1981), argue that recreation is a normative activity that has diverse dimensions and is at the heart of a society's values.[8] Watts (1971), emphasizes that the influence of recreation on cultural patterns is so important that an individual or a nation should strive for its positive use in order to avoid cultural regression.[9] This implies without doubt, that recreation is an important instrument in culture-building and assimilation.

Given the sociocultural dimensions of recreation, differences in outdoor recreation participation has attracted the attention of scholars as a subject of concern for many decades.[10] (see for example Bass, J. M., A. Ewert, and D. J. Chavez 1993; Bishop, D. and I. Ikeda, 1970; Burdge, R. J. 1969; Carr, D. S. and D. R.

Williams, 1993; Craig, W. 1972; Crawford, D. W., E. L. Jackson, and G. Godbey, 1991; Dottavio, F. D., J. T. O'Leary, and B. Koth, 1980; Ellis, G. and P. A. Witt, 1984; Floyd, M. F., J. H. Gramann, and R. Saenz, 1993; Furuseth, O. J. 1989; Goodale, T. L. and P. A. Witt, 1989; Iso-Ahola, S. E. 1980; Knopp, E. P. K. 1981; Lindsay, J. J. and R. A. Ogle 1972; McCormick, B. P. 1993; Meeker, J. W., W. K. Woods, and W. Lucas, 1973; O'Leary, J. T. and P Benjamin, 1981; Searle, M. S. and E. L. Jackson, 1985; Stamps, Jr. S. M. and M. B. Stamps, 1985; Tuten C. et al., 1995; Washburne, R. F. 1978; Washburne, R. and P. Wall, 1980; Wendling, R. C. 1980; White, C. R. 1955; White, T. H. 1975; Wilensky, H. L. 1961; Willie, C. V. 1974; Woodard, M. D. 1988).

Such concern is even more important today because of the stressful nature of the daily schedules in a modern society. An understanding of recreational differences of two groups in a given locale will offer important insights into problems that inhibit individuals and groups from achieving their recreational goals. The results from my study if used by recreational planners could lead to a better appreciation of the importance and benefit of utilizing available recreational opportunities.

Recreation acts as a means of renewal or preparation for routine and necessary work and rewards participants in terms of intellectual, physical and social growth, resulting in better health, improved citizenship, and in other qualities of personal development.[11] Consequently, activities and places that are

selected for recreation invariably become products of social experience of individuals and groups, providing an environment which enhances friend and family togetherness, and acts as a source of escape from daily pressures of living.[12]

1.2. Statement of the Problem and Objective of the Study

The perception and use of available recreational opportunities, and expectations of users may vary by racial groups.[13] Watts (1971), for example, has observed that the African-American has had a limited recreational experience within the framework of the dominant culture.[14] For several decades researchers have been concerned with the problem of race, class and leisure behavior (Mueller and Gurin 1962; Yancey and Snell, 1976; Washburne 1978; Klobus-Edwards 1985; Stamps and Stamps, 1985; Dwyer, Hutchison and Wendling, 1981; Floyd et al. 1993). These studies indicate that African-Americans participate less in many recreational activities than Whites. With this in mind, I believe it is necessary to investigate the cause of such limited recreational experience.

This study examines the issue of differences in the use of neighborhood parks and the propensity to use residual open space among African-Americans and Whites in Champaign, Illinois. My goal is to examine differences in these groups' usage of a sample of conventional parks and to determine their involvement in the use of residual open space as a recreational

resource. While use of parks is a normal and acceptable social behavior, use of residual open space as defined in this study, will not be similarly viewed.

Research examining the issue of race and recreation from different perspectives form different opinions as to whether race significantly explains different participating rates. No such study has been conducted in the City of Champaign. The objective of my research which compares the use of conventional parks and residual open spaces by two of Champaign's racial groups: African-Americans and White households, is two-folds:

(i) to examine differences in utilization of outdoor recreational opportunities offered in parks between a sample of African-Americans and White households in selected neighborhoods in the study area, and (ii) to examine their propensity to use residual open space (ROS) as a recreational resource.

The Champaign Park District is directly responsible for the provision of public recreational parks in the city and this is supplemented by private providers: clubs and individuals. Recent population increases among racial minorities has placed heavy demand on many outdoor recreational facilities. A recent survey, however, suggests that African-Americans make less use of these facilities when compared to other groups in the study area.[15] It is not clear, however, what might be responsible for underutilization or lack of interest in use of existing recreational resources by this group. But it has been noted that racial

marginalization in complex forms may account for the differences in use of recreational opportunities.[16]

Moreover, access to recreational facilities and services for African-Americans may be limited in some ways. The issue of alienated neighborhood and environmental degradation suggests, however, that African-American communities are socially and politically inactive and often neglected in the distribution of amenities.[17] The problem of differential use of recreational opportunities in the study area, thus, is a complex issue that I hope to clarify.

It is possible that the thoughts, feelings, wishes, interests, attitudes and other traits of different racial groups has not been considered in the provision and distribution of recreational opportunities. Informing providers and managers of existing differences in interests and preferences of these groups may be important to removing constraints and assuring that all citizens reap the full benefits of civic recreational opportunities.

The thesis of this study is that while groups may live together within a recreational neighborhood, they may be in 'different worlds' in using recreational resources.[18] African-Americans, it has been observed, show less interest in formal recreational pursuits and therefore contribute little or no data input to planners that seek to gauge their recreational needs. For example, only 11(3.8%) out of a total of 301(30.4%) response rate was received from African-Americans, compared to 240(24.24%) responses from Whites and 50(5.05%) from others,

in a recent Champaign Park District "Citizen Attitude and Interest Survey."[19]

Considering the fact that Blacks are second only to Whites in city population,[20] this non-response behavior is paradoxical to the Champaign Park District's goal of providing recreation services and facilities that are equitably distributed, and ensuring access by all citizens according to interests regardless of age, race, sex, socioeconomic status, mental or physical disability.[21]

One can contend, however, that although "general standards and planning parameters guide the overall plan" for equal facility access, there are differences in inter-group utilization of recreational services.[22] It is therefore important to consider the recreational interests and differences of racial groups in designing and locating parks and facilities.

Maintaining identity, fostering friendship, and enhancing family togetherness are important considerations of many recreationists.[23] Citizens of all racial groups share common concerns of not only the quantity but also the quality of recreational opportunities in their neighborhoods. Such concerns are problems which this study will investigate by analyzing respondents' perceptions of and preferences for neighborhood parks. The nonexistence or the existence of poorly-maintained public parks and facilities can signify a neglected community or neighborhood. Providers of parks and other outdoor recreational opportunities need to give adequate consideration to such concerns.

Making less use of available recreational opportunities than other residential groups might be due to some existing but unverified factors acting as constraints or barriers to African-Americans. Such constraints may be unknown to providers. Planners and providers need empirical answers to this issue to enable them to provide suitable opportunity for all residents based on the concept of careful targeting and equity.

It may be that the apparent low interest in using recreational facilities among African-Americans is less a lack of interest per se than a resignation to personal and external circumstances.[24] Such self-resignation can constrain interest and participation of anyone in a deeply disadvantaged situation. This may well be a contributing factor to use residual open space (ROS) as an alternative recreational resource.

An earlier study of non-Midwest cities found that despite the growth in the number of designated public parks, "ecologically diverse type of residual open spaces (ROS)"[25] do act as a recreational resource to some city residents. No study, however, has made a comparative analysis of racial differences in the utilization of park opportunities and examined how this contributes to propensity for using residual open space as defined in this study, as a recreational resource. The effect of constraint or barrier factors militating against the use of existing recreational opportunities and the inclination to antisocial behavior including the use of residual open spaces has not, to

my knowledge, been examined either in the study area or in any other city. This leaves a research vacuum for which my study will hopefully partially fill.

While most of the studies have focused on large urban centers and fewer still have been concerned with making comparisons of racial groups (Carr and Williams, 1993; Edwards 1981; Kelly, 1980; Washburne, 1978; Cheek, Field, and Burge, 1976; Meeker, Woods, and Lucas, 1973), none has yet focused on the concerns of African-Americans in the study area.

In line with the benefits of recreation, however, the issue of utilization of recreational parks and facilities is an important policy question. Of particular importance is the provision of equal access to all segments of the community since use depends not only on a knowledge of facility, location, and availability, but on access to it.[26]

1.3. Background of the Problem and Purpose of the Study

The main purpose of my study is to understand the recreational implications of parks and residual open spaces in the light of the aforementioned recreational differences between African-American and Anglo-American household groups, based on a case study of Champaign, Illinois. Such an understanding will provide valuable information which may be utilized by providers and managers. I investigate factors responsible for differences in utilization of existing recreational opportunities.

Thus, the main purpose of the study is to understand :

1. the difference between the two racial groups' usage of park facilities, and
2. the difference in proclivity to use residual open space as a recreational resource in Champaign, Illinois.

The result of my study will, by implication,

1. demonstrate interest in, and a contribution to a subject within the purview of geographic inquiry.
2. inform park and facility providers of the differences in utilization and preferences of racial groups and how such differences might be responsible for the use of residual open space as an alternative recreational resource in the city.
3. provide information important for a balanced provision and distribution of parks and facilities which will meet specific recreational needs of racial groups in the city.

Three research questions important for analyzing recreational differences of the two groups are:

1. are there differences in utilization of conventional park facilities between African-American and White-American households?
2. what factors account for such differences?
3. is there any proclivity to use residual open space as a recreational resource by the two racial groups in the study area?

The answer to these research questions lead to the

formulation of expanded fifteen testable null hypotheses-examined in Chapter Five.

1.4. Rationale and Significance of Study

Previous studies have noted that the recreational behavior of African-Americans is a social phenomenon which poses a continued conceptual problem for social and behavioral scientists (Woodard, 1988:87). The problem stems in part from research focusing on comparing the utilization patterns of African-Americans and Whites without examining racial differences in their perception, interests and usage of available recreational resources. Contrary to the findings of studies which reported that African-Americans are more likely to participate in urban recreational activities than Whites (O'Leary and Benjamin, 1981; Dwyer, Hutchinson, and Wendling, 1981; Stamps and Stamps, 1985), a recent study has, however noted that African-Americans make less use of available recreational opportunities in Champaign, Illinois (Champaign Park District Long-Range Plan, 1993).

My study examines the significance of race on patterns of recreational usage in a medium sized Midwest City. The rationale for the study is that recreation is an integral part of a local setting: parks and open spaces, and needs more intensive scrutiny as a policy issue.[27]

Understanding the recreational behavior of racial groups becomes important because it reflects life styles and cultural autonomy of groups (Woodard, 1988:87). Such information will give a relevant frame of reference to understand provision and distribution of services based on utilization differences between groups. It will also enable an understanding of the kinds of changes to be made for the present, and form a basis for future direction and policy.

1.5. Organizational Framework

Chapter Two of this dissertation reviews related literature and presents applicable theoretical perspectives relevant to the subject of the study. Chapter Three presents the research design detailing the procedure used to collect data examining differentials in the utilization of recreational opportunities. This is followed by Chapter Four which examines the spatial distribution of parks and residual open spaces. Chapter Five is data analysis and presentation and Chapter Six the summary of results and discussion leading to conclusions and recommendations resulting from the findings.

1.6. Summary

Recreation is a social activity whose availability and usage has received little attention from scholars. Despite the many

studies on recreation no study has examined differences in utilization of available recreational opportunities by race and related this to people's proclivity to use residual open space. This study is an important contribution because it fills this research vacuum and provides data which were otherwise lacking for analyses of recreation and differences in utilization of existing resources in the study area.

1.7. Endnotes

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2. Max Kaplan, Leisure: Theory and Policy, New York, John Wiley and Sons, Inc. (1975), p. 18.

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20. Ibid.

21. Ibid.

22. Ibid. 11.

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CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

This chapter reviews and presents related literature on recreation activities. Although many works abound in leisure and recreation, empirical geographical studies on comparative utilization of urban recreational opportunities of racial groups are few and there is no literature of such work on the study area. In most cases, studies of recreational activities have focused on general opinion surveys and inventorying of community recreation facilities of city populations. Due to a lack of sufficient data on all resident groups the results of such surveys are in most cases not encompassing of entire populations. This, as already noted, is often due to poor response rates among groups like African-Americans.

The general orientation of such studies determines the need for more facilities and services based only on population growth without considering racial differences in perceptions, interests, and utilization of facilities. My study examines the recreational differences of African-Americans and Whites in the usage of parks and the proclivity to use residual open spaces as a recreational resource. In this chapter, I review literature on research from many disciplines relevant to this study. A sample of a broad cross-section of the writings of researchers on leisure and recreation from different social science disciplines is presented.

The shortage of geographic literature on urban recreation has been noted by Becker (1977). He observes that "one of the earliest writings in recreational geography was by McMurry in 1930 who calls his contributions and those of other recreational geographers part of a newly-emerged field of economic geography."[1] To Becker, few geographers have studied recreational practices of urban residents or examined associated differences in utilization of opportunities. The result is a gap in understanding differences in recreational experiences of racial groups, and a distinct lack of attention to the factor of race in recreational planning and programs.

Becker attributes this situation to the fact that recreational geography was a relatively new field which has not gained complete disciplinary acceptance as a viable subfield.[2] He highlights that there is little depth in recreational studies although there has been a "broadening of the philosophical horizon of recreational geography since 1965."[3] The limited geographic research that has focused on recreational issues means that many theoretical and conceptual questions have not been addressed. Urban recreation, its dimensions and contributions is one such topic that has not received much attention from geographers.

Other related social sciences have, on the other hand, devoted considerable research efforts to issues related to variations in leisure and recreation behavior among diverse social groups. This reflects a growing interest in recreation, including urban recreation, from other disciplines and is reflected in the increase in research and numerous studies considering various aspects of recreation behavior.

As elaborated below, some of these studies indicate that recreation behavior can be predicted with reasonable accuracy from specific social characteristics. For example, the study findings of Lindsay and Ogle (1972), Washburne (1978), Kelly (1980), Washburne and Wall (1980), Wendling (1980), Edwards (1981), Stamps and Stamps (1985), Hutchison (1988), Carr and Williams (1993), Bass, Ewert and Chavez (1993), Floyd, Gramann, and Saenz (1993), indicate a positive association between socioeconomic status (education, income, and occupation), and involvement in recreation activities.

Many of these studies have examined the recreational behavior of different groups in many cities, some pointing to the fact that education, occupational status and racial differences have a distinct influence upon recreation behavior and the degree of participation.[4] Studies of this nature spanning the last three decades include but not limited to those of Frazier (1964); Kronus, (1971); Watts, 1971; Craig, (1972); Willie, (1974); Meeker, Woods, and Lucas, (1973); Cheek, Field, and Burdge, (1976); Washburn, (1978); Washburne and Wall, (1980); Kelly, (1980); Wendling, (1980); Edwards (1981); McMillen (1983); Woodard, (1988); Hutchison, (1988); Carr and Williams, (1993); Bass, Ewert and Chavez, (1993); and Floyd, Gramann,, and Saenz, (1993).

My study also utilizes socioeconomic and demographic variables (such as income, education, occupation, age and sex) of respondents to examine associations between these variables and usage of park and residual open spaces of the two racial groups in the study area. In this chapter only studies which are relevant to my study are noted according to category of grouping.

2.2. Review Categories

Recreation research on race can, however, be grouped into three main categories: studies that examine White participants, those that examine Black participants, and those comparing patterns of participation of both racial groups (see, for example, Stamps and Stamps 1985:41). The literature has been organized by categories or cluster of research themes and individually reviewed. It consists of categories of books, articles, reports, theses, and other research studies considered relevant in this study.

An initial category explores the underlying meaning of recreation as a form of leisure and discusses the general characteristics of outdoor recreation. Studies dealing with racial and cultural dimensions of recreation comprise second category. Within this category are works which examine the economic dimensions and the socioeconomic and psychological aspects of recreation. Works which offer theoretical concepts, techniques, and methods appropriate to recreation research and relevant to this study are appropriately identified in the literature reviewed.

2.3. The Meaning of Recreation

A number of researchers have examined leisure and recreation from different perspectives in order to define and explain their meaning. Accordingly, many definitions of leisure have resulted in debates on how best to conceptualize the phenomenon (Howe, 1988:305). An increasing number of writers, (for example, Godbey, 1985; Harper, 1986; Iso-Ahola, 1979; 1980; Kaplan, 1975; Kelly, 1978; 1882; Mannell, 1980, 1984; Neulinger,

1981, 1984; Shaw, 1984, 1985), however, appear to be in agreement on the "operational definition of leisure as a subjective phenomenon: an experience or a state of being or mind."[5]

In his doctoral dissertation Robert Leo Janiskee (1974:16), reviewing other works, notes that:

> "leisure is conceived within its group functions of relaxation, entertainment, and personal development; recreation on the other hand is conceived within the total framework of the instrumental function of leisure behavior as activity voluntarily engaged in during leisure and motivated by personal satisfaction which result from it."[6]
>
> "Recreation is thus, one of the major uses to which we put leisure time.[7] Among its products are the values in the form of physical and mental health and those "...which improve character and good citizenship and thus help strengthen the democratic way of life."[8]

In this respect, recreation is essentially a creative activity dealing with the restoration of the whole individual, and acting as "essential institution-building activity of man."[9] The daily routine of life is intersected by periods of recreation and this helps to revitalize health and maintain the daily activities of life[10]. As such, recreation acts as a means of strengthening the human body and making it able to stand the daily rigors of life.[11] The conception and definition of leisure and recreation calls for appropriate use of both qualitative[12] and quantitative research methods of investigation.

Two recreational models deemed relevant to this study are the humanistic model in which recreation is seen as a right of the individual, and the sociological conception, which views recreation as a construct, and perceives activity as voluntary.[13] From these conceptions, recreational activity takes many forms in an effort to meet the different interests, needs, and preferences of individuals and groups which differ[14] and this makes its definition both complex and difficult.

Outdoor recreation is simply that subcategory of recreational activities which take place in predominantly outdoor environment.[15] All forms of outdoor recreation are seen to yield satisfactions to the recreationist through its various forms of physical, esthetic, emotional, sociocultural, and educational experiences.[16]

2.4. Economic Dimensions

In their study on the Economics of Outdoor Recreation, Marion Clawson and Jack Knetsch (1974:8), note that outdoor recreation is such an important aspect of community life and "recreation areas of various sizes, locations and characteristics form an interrelated system."[17] People are attracted to a given park or open space based upon recreation interests, preferences, and above all, the physical nature, size, accessibility, and conveniences of such a park or open space.[18]

McMurray (1954:255), notes that the personal and subjective nature of recreation makes an individual or group to recreate at any convenient place rather than in specified locations.[19] In this respect, one can argue that the use of residual open space (ROS) for recreation by some residents

is a matter of convenience and choice rather than the effect of constraint in use of conventional parks.

The economic dimensions of recreation are relevant to my study and have attracted the attention of many scholars. Cosgrove and Jackson (1972) observe that if people spend as much time at leisure as they do at work, then the study of recreation as an activity is vitally important. This focus, unfortunately, has been largely neglected, and particularly so with reference to provision in urban areas.[20] Ten years later, Preobrazhensky and Krivosheyev, eds. (1982), note that the desire to pursue recreation leads to the development of a specific sector of the national economy, its recreational branch.[21] And Smith (1983), similarly notes that "....recreational land use was the first aspect of the field to attract geographers, while tourism and recreation were recognized as important contributors to local economies as early as the 1920s."[22]

The dearth of geographic literature on recreation, particularly on urban outdoor recreation, should be attributed to lack of interest in this topic rather than the absence of a "lack of a research paradigm."[23] With the increasing popularity of recreation and the realization of its importance to individuals and society, its locational attributes and spatial dimensions makes it an explicitly an urban concern. The role of geographers cannot be overemphasized because "....if recreation is indeed significant to human life, then no discipline can be arbitrarily excluded."[24] Recreation phenomena should therefore be studied from the perspectives of the social science paradigms.[25]

Realizing that many aspects of recreation are intrinsically geographic, Becker (1977), suggests that recreation can be studied with reference to

personal tastes and perceptions, accessibility, recreation as a resource, diffusion of innovation, location analysis, central place theory, regional geography, regional impact analysis, planning, and proxemics.[26]

Despite efforts to diversify this field of study economic considerations still dominate recreational geography and some recreationists are willing to pay prescribed fees to use recreational facilities. Kelly and Godbey (1992) note that there is overwhelming evidence of increased reliance today on the market to provide recreational opportunities in developed societies.[27] Consequently, there has been tremendous growth and investment in recreation-based industries such as "destination resorts, tourism facilities, sports and fitness clubs, equipment manufacturing, retail sportswear boutiques, and related businesses."[28] These sectors must make profit to stay in business and some recreational equipment are priced beyond the reach of some recreationists.[29] Recreational markets have thus, been created guided by demand-supply considerations.

A few geographers have added other dimensions in addition to the economic aspect. In a study of four communities in Northeastern New Jersey, Airola and Wilson (1982) find that despite the growth in the number of designated public parks, residual open space (ROS) acts as a distinctive recreational resource.[30] Despite this work, no other research has investigated the use of residual open space in the urban environment. In this respect, my study seeks to make a contribution.

2.5. Theoretical Perspectives on Recreation and Race

Diverse theoretical perspectives have been advanced to understand recreational participation across different racial groups.[31] Washburne (1978), examining racial variations in recreation, identified two distinctive perspectives: socioeconomic-demographic and marginality.[32] In the socioeconomic-demographic perspective he argues that people with similar socioeconomic-demographic characteristics tend to participate in similar recreational activities.[33] The marginality theory suggests that Blacks are relative non-participants in recreation because of poverty and the consequences of discrimination.[34] In this perspective, African-Americans would develop the same recreation patterns as Whites given the same economic resources, time, and opportunity.[35] This notion places emphasizes on the barriers to participation rather than consumer choice and preference.[36]

In a critique of Washburne, Hutchison (1988), contends that the "marginality-ethnicity approach is conceptually and theoretically weak, has not been successfully operationalized, and thus has not made the expected contribution to the field."[37] This critique points to the fact that studies examining racial variations in recreation behavior should not be limited in scope. It suggests that future work in this area produce a more comprehensive understanding of the meaning of race.

In line with Hutchison's critique and suggestion, O'Leary and Benjamin (1981)[38], have clarified relevant operational terms:

1. An ethnic group is defined as a collectivity within a larger society having real or putative common ancestry, memories of a shared historical past, and cultural focus on one or more symbolic elements defined as the epitome of

their peoplehood.[39]

2. A racial group on the other hand is a biological category based on physical appearance, that is, such genetic characteristics as skin color, hair color, and the shape of head, eyes, and nose.[40]

3. Culture is a term used to describe the way of life of a given group of people. Culture includes technology, institutions, dress, language, customs, the arts, and values, etc.

4. Dominant culture refers to the way of life of the largest number of people in a designated group, such as American culture.

5. A subculture is a somewhat homogeneous or identifiable group within a larger and more comprehensive culture. Such groups may be large or small. They may be bound by ties of religion, ethnic origin, historical accident, significant location, or occupation.[41]

6. Minority refers to social power. In terms of number, the minority may be an actual majority. With limited power, the minority is kept out of favored positions or denied access to facilities or opportunities taken as a matter of course by the majority. This minority may possess very little cohesion within itself.

7. A community is a social entity than society as a whole, which mediates between the individual and the larger society, and is necessary to prevent individual alienation. Community is not necessarily based on territorial boundaries,

> for example, substitute communities are found in professional or business associations; an ethnic group may serve as a community, for example, the African-American community or the Mexican American community.[42]

From these definitions, a clear distinction is made between ethnic and racial groupings. Ethnicity is a shared culture and background such as common ancestry, language, religion, custom, and national or political identification. Ethnic membership is determined by social definition.[43] Clearly, ethnic group and race are two terms that characterize groups of people, one by social identification and the other by physical appearance.[44] My study focuses on race but uses ethnicity only when quoting an author. In this respect, the two terms are used interchangeably in this study.

Burdge and Field (1972), in their study "Methodological Perspectives for the Study of Outdoor Recreation" note that outdoor recreating is a behavior which is culturally influenced and requires an understanding of participant cultures.[45] Two of their six methodological perspectives are the social psychological, and activity attributes levels. According to the first perspective, understanding human social and psychological behavior requires investigating social values and attitudes which guide individual decision-making.[46] In social and psychological they argue that various cultural symbols play important roles in recreational organization and socialization processes.[47]

The activity attributes perspective suggests that each recreation activity has a type of person it attracts to the general exclusion of other activities.[48] Frequency of usage of open spaces for recreational activities

may be partially due to such attraction potential in addition to constraint variables. In this study I examine factors responsible for choice in park and residual open space use by respondents.

Recent studies note the social nature of recreation. Stokowski (1990), notes that social relationships provide structure, order, and meaning for people as they conduct their day-to-day lives. Race relations are social arrangements that create for the individual the sort of order in which he can experience his life as making sense.[49] The social nature of recreation is important in the life and behavior of groups.

According to Woodard (1988), African-Americans are a social group whose life behavior has been greatly affected by social structure working through racial background.[50] Socioeconomic structure has impacted attachment to traditional African-American culture in terms of recreation behavior and attitudes.[51] An individual or a group is attracted to a location which fulfills a perceived need.[52] Use of park and residual open space is a choice to fulfill recreational needs, the latter, however, is socially unauthorized.

In their study of socioeconomic patterns of outdoor recreation, Lindsay and Ogle (1972), note that absence of income variation between recreationists will lead to equal participation. This, according to them, is explainable by opportunity theory.[53] The theory assumes that if opportunities are equal for racial groups, no difference will exist when income, age, sex, education, race, and use of recreational opportunities are examined for both groups.[54] I use this theory to examine the relationship between income, education, and usage of recreational opportunities.

Kelly (1989), argues, however, that culture has greater influence on recreational involvement.[55] Cultural similarities and differences of individuals and groups affect their recreational behavior. This means that equal opportunities for both groups does not necessarily result in equal participation in recreational activities. People seek to recreate whenever they can, as a natural and a cultural behavior, irrespective of regional or socioeconomic differences.

Meeker, Woods and Lucas (1973) note that Blacks are more likely than Whites to utilize urban recreational activities.[56] My study will determine if this is the case in the study area. On the other hand, Washburne (1978), using a sample of low-income urban families, concludes that Blacks have limited accessibility to recreation because of poverty and discrimination.[57] His argument is based on marginality perspective which assumes that underparticipation results from preventive factors such as poverty and discrimination.

Washburne however doubts the validity of the model as an explanation, and suggests that assumptions that recreational patterns are based on subcutural leisure norms and value system, should be pursued as an alternative explanation.[58] I examine this assumption by comparing two racial groups in my study. Existence of relationships between some independent variables and specific activities, have been examined by Kelly (1980), who concludes that Whites participate in specific recreational activities more than Blacks.[59] Independent variables: sex, age, family income, race, occupation, and education are used in this study to examine participation differences between African-American and Anglo-American households.

According to Edwards (1981), ethnicity is a factor in recreation but ceases to be a factor when blacks live in white areas. She argues that Blacks living in black areas are more likely than Blacks or Whites living in white areas, to participate in outdoor recreation.[60] Like Washburne (1978), she notes that involvement of blacks in leisure pursuits is a function of subcultural socialization processes and value orientations.[61] My study examines usage of recreational resources between African-Americans and Whites in racially distinct neighborhoods, and a predominantly mixed neighborhood, to verify this observation.

Dottavio, O'Leary, and Barbara Koth, evaluate a hypothesis that "the social groups with whom people interact are relevant variables for explaining the recreation activity selection process."[62] Comparing differences between two independent variables (socioeconomic-demographic: age, sex, education, income, occupation, race, and occupational prestige, and social group variables, age, and sex), they conclude that the social group was a more effective explanatory variable of frequency of participation in outdoor recreation activities than were socioeconomic and demographic variables.[63] According to their study, recreation satisfaction is the positive perception or feelings which an individual forms, elicits, or gains as a result of engaging in recreational activities or choices.[64] My study examines the relationship between presence of family or friend, perception of recreational facilities, and participation between African-Americans and Whites.

According to Washburne and Wall (1980), Blacks have a distinct cultural values which affect their recreational patterns in contrast to those of Whites.[65] This suggests that recreation is a mechanism for 32

maintaining contrasting minority cultural systems. Wendling (1980), similarly concludes that differences do exist in both urban and rural outdoor recreation participation patterns of Blacks and Whites, and suggests more research in this direction.[66]

Given the dynamic role recreation plays in the life of an individual, Beard and Ragheb (1980), suggest that recreation satisfaction should be the major goal of service provision for personal and social adjustment and overall happiness.[67] Crandall (1980), similarly notes that individuals and groups can logically be expected to be attracted to and satisfied by recreational activities which meet their needs.[68]

Kelly (1983), notes significant differences in recreational participation of groups but suggests that such differences do not shed full light on distinct behaviors of racial groups.[69] McMillen (1983)[70], agrees with Williams and Babchuk (1973), that racial isolation is due to physical and social boundaries, with the latter accounting the major factor of isolation.[71] My study examines relationship of constraint and usage of neighborhood parks and facilities between African-Americans and Whites.

Ellis and Witt (1984), relate participation in recreational activities to perceived freedom. They argue that freedom is:

> something which exists within the individual; something phenomenological rather than external but nonetheless to be prized; associated with choice, the absence of feelings of isolation and anonymity, and absence of confusion which prevent a man from seeing his situation and his powers; the one thing that could never be taken from a man; and the ability to choose

one's own attitude in any set of conditions or circumstance.[72]

In conclusion they argue that recreation is as much freedom to do something as it is freedom from something, and experience of recreation is intimately and inextricably associated with a perception of freedom.[73]

The above freedom perspectives lead to my observation that African-Americans as a racial group need to realize that individuals with a higher perception of freedom benefit from opportunities. Failure to utilize available opportunities is a rejection of personal freedom and individual responsibility.

Godbey (1985), argues also, that lack of awareness is a prevalent condition among non-participants and suggests that combating lack of awareness is a more cost-effective method of increasing participation than altering services to enable participation by those who in the past have been uninvolved.[74] Although an interesting proposition, the opposite that service should aim at enabling participation by all racial and social groups without physical or social constraints is more ideal. A study of the relationship of race and class to participation in leisure activities by Stamps and Stamps (1985), indicate that race is more important than class in determining leisure participation.[75]

Crawford and Godbey (1987), consider three types of barriers to recreational participation including: intrapersonal, interpersonal, and structural.[76] They argue that barriers are influences upon, not determinants of, recreation behavior. The relative strength of barriers in relation to preference determines recreational behavior. At the structural level, participation in activity may be undertaken if preference is greater

than perceived constraints.[77] While other studies have noted external barriers to participation, I did not find this to be the case in my study. In my study, the barriers to participation appear more psychological than physical.

Understanding the relationship between constraints and recreation has important implications for planners and providers of recreational facilities, and policy makers (Goodale and Witt (1989).[78] Recreation service provision should be geared towards overcoming conditions which preclude or limit recreation participation for a particular group.[79] Jackson and Dunn (1988), note that the inability to participate more frequently in an activity is a sign of latent demand.[80] The loss of interest and refusal to respond to surveys may mask latent constraints.

A social group model by Stokowski (1990), assumes that people recreate with others with whom they feel close.[81] This assumption follows a formal theoretical statement by Burdge (1969), that personal communities are the basis for recreation involvement, because intimate social circles are a critical determinant of choice and variation in recreation behavior.[82] This work confirms several of my recommendations later in chapter five.

A study by Shaw, Bonen, and McCabe (1991), reveals the existence of many constraints and barriers to participation in recreational activities. According to them, a better understanding of recreation constraints requires an understanding of social structure and social theory.[83] My study examines correlations that may exist between demographic variables of age and gender, and socioeconomic structure of occupational and income, and the usage of park and residual open space.

In a later study Crawford, Jackson, and Godbey (1991), reiterate Jackson's basic thesis (1990)[86]; they suggest that constraint models should include both psychological and sociological aspects of the individual in a broad-based framework.[84] Shaw et al. (1991), believe the important advantage of Jackson's model to be its conceptualization of constraints without neglecting ingredients of previous theoretical work.[85] According to Jackson's model, two categories of constraint act upon recreation. Antecedent constraints theoretically impede preferences while intervening constraints impede participation in a recreational activity.[86] The two types of constraint are analogous to those found in Crawford's (1987), structural constraints model. Jackson's (1990), constraint categories is a good framework for my study because of its psychological and sociological perspective of the recreationist's choice.[87] The sociological aspects of individuals categorized as antecedent constraints include presence and influence of members of the family or racial group.[88]

Another category of constraints which affect individual preferences is racial identity.[89] Kay and Jackson (1991), argue that changing the underlying social structure is a prerequisite to counteract constraints.[90] Although the 'underlying social structure' may not include discrimination in usage of recreational opportunities, minority racial groups perceive this to be the case in the quality of parks and facilities. Contrary to many studies and popular notions, Shaw et al. (1991), and Kay and Jackson (1991), contend that constraints do not necessarily reduce recreational participation. Jackson (1993), suggests the necessity of examining ways in which individuals and groups of people encounter and overcome various

types of constraints or barriers in order to improve their recreational aspirations.[91]

In their recent study of ethnicity in outdoor recreation, Carr and Williams (1993), discuss the importance for individuals to recreate in areas where other recreationists have compatible sociocultural definitions.[92] They argue that it is difficult to fully appreciate and serve the diverse clientele who use public parks until we are able to understand their differences within the context of life experiences and encounters.[93] Experiences, such as day-to-day struggles, hopes and dreams for the future, play an important role in shaping human recreational interests, expectations and needs. This view guides my recommendations for planners and providers of recreational resources later in this study.

A similar study by Floyd, Gramann, and Saenz (1993), investigates the effects of subculture, marginality, and perceived discrimination on the use of public outdoor recreational areas in Phoenix, Arizona. Utilizing assimilation and social distance theoretical perspectives, their results support the socioeconomic distance or marginality hypothesis.[94] Hultsman (1993), notes, however, the necessity to differentiate between antecedent constraints which shape recreational preferences, and intervening constraints whose influence is noticeable only after preferences are formed.[95] Recreational constraints are, thus, associated with preferences.

Raymore, et al. (1993), and Jackson (1988:69), define constraint as "a subset of reasons for not engaging in a particular behavior."[96] And Jackson, et al. (1993), believe that recreational participation is dependent on ability to overcome constraints rather than their absence.[97] This underscores the importance of personal freedom in determining park

usage and participation in recreational activities without regard to racial differences and geographic locations.

Significant differences have been found to exist in site attributes and activity participation, and in preferred and actual usage among three main United States racial groups (Bass, et al. 1993).[98] This finding supports other studies already noted which show that race and socioeconomic status play a role in people's level of expectations toward recreational sites and opportunities.[99] Similarly, Kaplan and Talbot (1988), study variations in racial preferences and conclude that Blacks prefer more developed environments.[100] This would suggest that Blacks use urban parks more than Whites, and maybe less likely to use residual open space. This assumption will be examined from the result of my study.

On data collection, Howe (1988), recommends a qualitative structured interview technique because it enables subjects to express in their own words and from their own perspectives the role which leisure activities play in their lives.[101] She describes a perspective as a point of view from which persons make sense of their life experiences, and assign meaning to their life behaviors, and argues that qualitative research is justified in this context based upon the phenomenological tradition of social science.[102]

The phenomenological assertion that reality is what is perceived by actors is useful for my field survey, analysis and discussions which address issues of perception, preferences and interpretations of constraint in the usage of parks and facilities. The result from this study will reveal

how recreational opportunities in Champaign, Illinois are perceived by respondents.

This literature review has been completed in order to understand past studies on related subjects and to examine historical research relevant to my topic which verifies racial differences in park usage and proclivity to residual open space, as a contribution.

2.6. Theoretical Assumptions of this Study

The perspectives and findings of studies reviewed in this chapter lay the foundation for the rest of this dissertation. In spite of the assumptions of many studies that recreation is an indicator of subculture and social life-styles (Carr and Williams, 1993; Stokowski, 1990; Kelly, 1989, 1983; Edwards, 1985, 1981; Blackwell, 1975; Kronus, 1971), more empirical evidence is needed on recreational differences of socioeconomic and racial groups to support these assumptions. My study helps in an understanding of the theoretical assumptions of some aspects of the recreational life of African-American and White racial groups. This is achieved by comparing their usage of parks and their proclivity to use residual open space as a recreational resource.

Although social class status to a large extent, is an important determinant of recreational life style (Stamps and Stamps 1985:41), the theoretical assumption of my study is that race, plays a significant role on how people perceive and use available recreational resources. If race was not a major determinant of perception and usage of recreational resources, integrated racial neighborhoods should reflect similarities in

perception and usage of parks and residual open spaces. The study of Stamps and Stamps (op. cit.) and others are useful in my study in that they agree on the existence of differences in recreation patterns of African-Americans and White-Americans.

The argument that changes in neighborhood composition through integration, results in homogeneous life styles and participation in similar recreational activities of racial groups (Willie, 1974; Carr and Williams, 1993; McCormick, 1993; Woodard, 1988; Kelly, 1978), is not assumed in this study. Although social integration may occur in an integrated residential neighborhood than will be the case in a segregated neighborhood (Stamps and Stamps, 1985:41), this does not ensure similar recreational patterns. It has earlier been noted in this review, that while racial groups may live in the same neighborhoods, they may be in different worlds of their own (McCormick, 1993:1). This means differences in perceptions, interests and usage of recreational resources.

African-Americans, it has been noted, have a unique social order which comparative studies such as this should not fail to consider (Woodard, 1988). Clearly, individual and group behavior is racially influenced and perception and constraints in recreational usage of resources is a factor of race and socioeconomic variables and may not radically change by integrating neighborhoods.

2.7. Summary

The literature reviewed in this chapter provides evidence for a link between recreational activity and the socioeconomic factors of age,

education, income, occupation, and marital status. Although these studies were conclusive, only few of them compared usage of recreational opportunities of African-Americans and Whites. None of them moreover, examined the dynamics of proclivity to use residual open space as a recreational resource. Nonetheless, these studies provide the theoretical foundation for my study which examines differences in the use of park recreational facilities and the propensity to use residual open space between African-Americans and Whites in Champaign, Illinois.

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CHAPTER 3

RESEARCH DESIGN AND DATA COLLECTION

3.1. Introduction

This chapter examines the methods that I used to investigate racial usage of parks and residual open spaces in Champaign, Illinois. The analysis examines how the use of park and residual open space by African-American and White Champaign residents compare in the study area. This research question was examined by comparing the recreational interests, behaviors and experiences of these two racial groups.

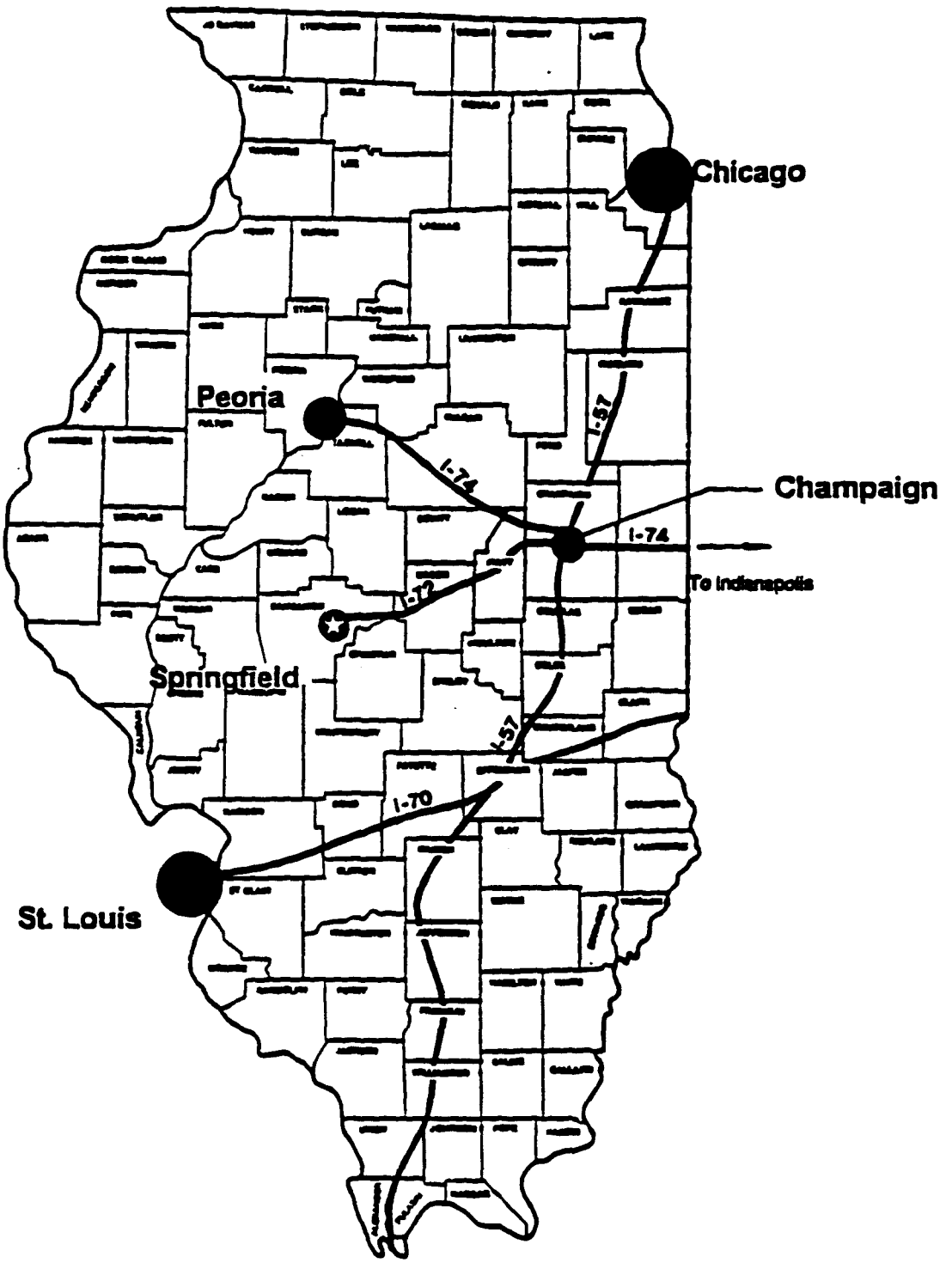
In this chapter, I also review the strategies and procedures for obtaining the necessary data to accomplish the objective. A basic description of the research design used to complete this study follows.[1]

Phase I: Data and Methodology

3.2. Task 1. Site and Subject Selection

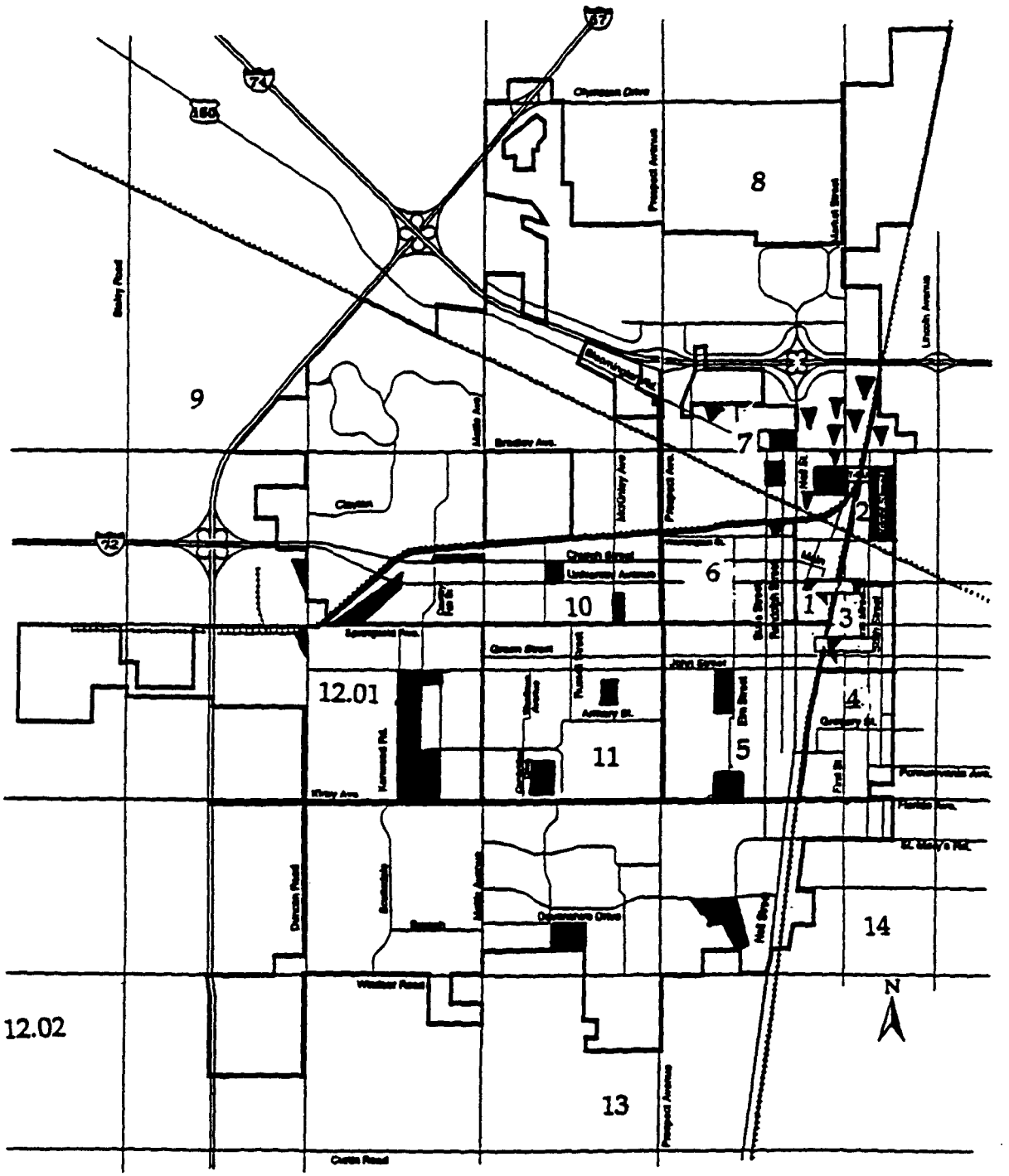
The study area is Champaign, located in East-Central Illinois, approximately midway between Chicago and St. Louis[2] (Fig. 1). According to the 1990 Census, the City's population was 63,502.[3] The City's White and Black populations were chosen as the focal groups for this study based on their population sizes which rank first and second in the city. The racial composition of the study area is 51,254 (81%) White residents,

Figure 1. Location of Champaign, Illinois



Source: State of the County, Champaign County, Illinois: 1992

Figure 2. Distribution of Parks and Residual Open Spaces



Census Tract Boudary

Park

Residual Open Space

Source: City of Champaign Planning Department, 1991

and 9,006 (14%) African-American residents, 2,608 (4%) Asian-American residents, and 634 (1%)[4] other individuals.

The selection of neighborhoods and recreational sites were done through random sampling of Census Tracts using a map provided by the Champaign Park District.[5] Twelve Census Tracts containing twenty-nine parks and nine other recreational facilities were identified (Appendix A). Five Census Tracts comprising two predominantly African-American neighborhoods, two predominantly White neighborhoods, and one of integrated neighborhood were selected for sampling. A stratified sampling procedure was used to identify households (not necessarily individuals) in each Census Tracts.[6] Residual open spaces were also identified within the study area but not necessarily according to Census Tracts since they do not occur in all Tracts (Figure 2).

Figure 2 and Appendix A show the spatial distribution of parks and residual open spaces in the study area. Clearly, Champaign has a number of parks well distributed within neighborhoods. The parks are thus, within walking distances of households one would expect regular use of parks by households living in the neighborhood. This will be determined later in this study. In this study, I use data from respondents who identified themselves as either African-Americans or Whites of Caucasian origin. Identification of each racial group was based on responses to a background question on racial identity (Appendix B #19). Responses from racial groups not within any of the two categories were eliminated from the responses received. Equal numbers of households were sampled from

each Census Tract and it was not necessary to control for size differences by adjusting the selection probabilities.[7]

3.3. Task 2. Unit of Analysis

The second task was to determine the number of households and parks within a Census Tract using the 1990 census of "Population and Housing Report" and "Champaign Park District Destination Survey Report."[8] A total of 8171 households, (N = 8171) and nine parks were located within the five Census Tracts. Census Tract two is 0.5 square miles, has 754 households and one park, Douglas Park. Census Tract seven is 1.0 square mile, has 1,492 households and two parks, Bearsdley and Spalding. These are predominantly African-American neighborhoods.

Census Tract five is 0.7 square miles, has 1,874 households and two parks, Hessel and Hazel Parks. Census Tract ten is 1.0 square miles, has 2,180 households and three parks, Davidson, Eisner, and Glenn Parks.[9] These are predominantly White neighborhoods. Census Tract six is 0.4 square miles, is a more racially mixed neighborhood and has 1871 households and one park, West Side Park.[10]

3.4. Task 3: The Study Instrument

The instrument that I used to acquire my data is a structured questionnaire modified in line from that used in a 1993 Park District

recreation survey by the Department of Leisure Studies, University of Illinois at Urbana-Champaign.[11] This was necessary to avoid inventing a 'new wheel' and to assure the use of the result will also help the Park District's provision of recreational opportunities of interest to residents.[12] The instrument (Appendex B), was accompanied by a cover letter in which I introduced myself as the investigator, and briefly stated the purpose of the research, assuring confidentiality to each respondent.

The questionnaire elicited data on household recreational activities. Data were collected on household recreational interests, preferences, attitudes and general opinions on available recreation opportunities, preferred period of for recreating, frequency of use, and reasons for non-use or constraints to accessing available facilities. Socioeconomic and demographic characteristics of respondents were also queried. In general, the survey instrument was structured to provide both categorical and continuous data for nominal-scale analysis. A combination of structured questionnaires, face-to-face interviews, and field observations were used to collect the data. This multiple method approach maximized accuracy of the assessment by triangulation. It also made it possible to obtain sufficient data, especially from the African-American group noted for low-response rates during past surveys.

The stratified random sampling technique delineated the households to be interviewed in each Census Track. It assured protection against selection bias, resulting in more accurate results.[13] Block groups within a Census Tract made delineation easy.

Phase 2. Administrations of Questionnaire and Respondent Interviews

3.5. Task 1. Pre-Test

In task 1 of this phase, I carried out a pilot survey in which the questionnaire was administered to twenty randomly selected households of each racial group during the first week of June 1994. Although only five surveys were completed and returned, the results led to several changes in the survey instrument to improve its understanding and the adoption of the combined approach. The restructuring of the questionnaire took into consideration the readability of questions and directions as they were understood by the subjects.

3.6. Task 2. The Survey

The main task was designing and selecting a probability sample which would yield about 300 interviews from within the two population groups under study. The goal was to sample sixty (60) households from each of the five census tracts from the population of 8,171 households within the study area.

3.7. Sampling Fraction

The purpose of the study dictated the type of analysis that was to be carried out. Since the population of each racial group within the selected neighborhoods was deemed large enough and it was necessary to include an equal number of each group in the sample, a proportional or equal

probability stratified random sampling technique was adopted.[14] To obtain the required sample of 300 from 1,871 households, it was necessary to first determine the sampling fraction. A tract was divided into strata with a sampling fraction of 12 (k = N/n, 1871/300 = 6).[15] The first house was randomly selected, and then every other 6th house within a Census Tract was sampled. This method assures that every household had an equal chance of being sampled, and reduces sampling error. It is also cost-effective than it would otherwise be if the sampling fraction was, for example, less than six.

The modified questionnaire was self-administered to 300 randomly selected households starting in the first week of July 1994 and followed by face-to-face interviews with household heads. The approach was very helpful as it generated candid answers which could not be possible with mail survey alone. Mail surveys require a fair degree of literacy and the willingness to respond to a questionnaire.

A range of responses from both racial groups was considered critical for the analysis. Information on socioeconomic and demographic background, preferences, satisfaction and constraints concerning the use of available parks and residual open spaces were collected. Data collection extended through September 1994. Interviewing took place on both weekends and weekdays after lunch and evenings, before dinner-time. The weekend was considered ideal to meet household heads who were likely at work on weekdays. This assured that information were obtained from the head of households with different schedules, and minimized

bias towards not obtaining information directly from the head of the household.

Field observation of parks and open spaces was also carried out within the same summer period during weekends when it was hoped that there would be maximum use of parks and residual open spaces. Observation and face-to-face interviews enabled an understanding of the subjective meanings which respondents give to their recreational facilities and opportunities.[16] Collins (1985), has described this type of approach as part of a long sociological tradition of "verstehen."[17]

3.8. Summary

To examine the central research question of this study, I collected data by triangulation approach, using the stratified random sampling technique. Triangulation is the use of several methods to establish basic facts; it assures valid and reliable data collection.[18] I interviewed and observed subjects during the summer of 1994. Data were collected on household background, perceptions and preferences of recreational parks and residual open spaces. Interviews enabled me to discover subjective meanings which subjects attach to their recreational life, while field observation enabled me to see what people really do, as opposed to what they say they do, in parks and residual open spaces. I used the data to analyze differences in the utilization of recreational opportunities provided in parks, and propensity to use residual open space between African-Americans and Whites.

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CHAPTER 4

PARKS AND RESIDUAL OPEN SPACES

4.1. Historical Overview

In this chapter I describe how parks and residual open spaces have come to exist in order to distinguish them. Since the beginning of cities, open spaces have been regarded as an important public amenity and urban parks are regarded as a vital part of a city's range of recreational resources.[1] Parks and designated play areas cannot, however, be considered in isolation from the rest of urban open space. While parks are designed to meet recreational needs of citizens, residual open spaces result as leftovers after design and from other factors described below.

In Illinois, Article XI, Section 1, of the Constitution of the State laid the foundation for the provision of recreational parks. According to this Article, "the public policy of the State and the duty of each person is to provide and maintain a healthful environment for the benefit of this and future generations."[2]

Subsequently, Anthony T. Dean, Director, State of Illinois Department of Conservation (1974), emphasizes that "from the very beginnings of our Country and this State, one of the strongest currents in American thought has been the idea that the out-of-doors is essential to human welfare, not only for personal enjoyment, but vital to the spirit as well."[3]

These public policy and pronouncements have largely been responsible for the provision of recreational parks in Illinois. The provision and maintenance of parks is the responsibility of both the government and the private sector.[4]

Residual open spaces, on the other hand, arise not by careful planning but from it. The word 'residual' is defined as "of, relating to, or characteristic of a residue; remaining as a residue." And residue is defined as "the remainder of something after removal of parts or a part.[5] In this respect, residual open space connotes leftover, unusable or unwanted land. Residual open spaces, however, can be defined in several ways: in terms of its location, physical form or appearance, the process that created it, or in terms of its economic and environmental cost.[6]

Depending on the process through which they are created, residual open spaces, unlike parks, are described by various names. They may be referred to as derelict land: land which has been so damaged by extractive or other industrial processes or by any form of urban development that in default of special action it is unlikely to be effectively used again within a reasonable time, and may well be a public nuisance in the meanwhile;[7] dormant land defined as land lying vacant or in temporary use which could be brought into permanent use without major works of reclamation; wasteland or idle land: land which is undamaged or slightly damaged and could be made usable with minimal effort and cost.[8]

Residual open spaces are often the most conspicuous idle land and can constitute an environmental problem.[9] Such open spaces will include,

but not limited to urban vacant lots of all sizes, unused bits of land or marginalized land left over after development, railway sidings and greenways. Thus, there is no one definition for residual open space. Its definition is largely determined by the purpose and research interest and a researcher uses a definition which suits his agenda.

For example, Teuvo M. Airola and David Wilson (1982:472), in their study of "Recreational Benefits of Residual Open Space: A Case Study of Four Communities in Northeastern New Jersey," define residual open space (ROS) as "undeveloped, unmanaged ecologically diverse tracts of land potentially accessible to large numbers of urban residents."[10] Clearly, the definition stresses the type of residual open space of interest and research agenda. For the purpose of this study I define residual open space (ROS) as an open space of any size or physical appearance within the urban environment, reserved for uses other than recreation. This will include but not limited to: empty lots (excluding cemeteries, back and front of usable buildings), dormant land, abandoned old buildings. Some of these open land spaces belong to the City and private individuals and may be put to use at the owner's convenience.

A general geographical appraisal of residual open spaces in the neighborhoods studied reveals an interesting pattern (Figure 2). Clearly, residual open spaces are more concentrated in African-American neighborhoods than White neighborhoods. This situation may be due to the fact that most African-Americans live in poor neighborhoods with little or no maintenance. The distribution of urban residential neighborhoods is explained by a social science paradigm: biological

determinism of life competition leading to the spatial arrangement of cities into differentiated neighborhoods.[11]

Most residual open spaces in African-American neighborhoods consist of vacant lots, unused pieces of land or marginalized land of different sizes, and old houses. On the other hand, residual open spaces in White neighborhoods are more of reserved large lots which are well maintained by their owners or their agents. Some of these empty land carry Champaign Park District's and Realtor's 'for-sale or lease' signs. Accordingly, while some residual open spaces are lands reserved for future development others are the result of marginalization and abandonment of lots and old houses.

Usage of residual open spaces vary greatly between African-Americans and Whites. Field observation reveal that residual open spaces in African-American neighborhoods are, in most cases, used as hang-outs for teenagers of both sexes, especially in the evenings and late mornings. Children also use residual open spaces for some active recreation such as running and throwing ball. Residual open spaces in White neighborhoods, on the other hand, are used mostly for walking dogs and nature watching.

Whatever is their origin and usage, urban residual open spaces have both positive and negative impacts on their neighborhood. For example, they become unsightly and depressing if neglected for long periods of time. Some of these open spaces in African-American neighborhoods have been out-of-use for a long time and have been overgrown by rough

vegetation. In this condition, they have attracted rubbish, and an air of neglect hangs over them and their vicinity.

Such an environment may even become an opportunity for antisocial behavior for some residents. Neglected residual open spaces may also diminish neighboring properties by making their neighborhood unattractive to prospective buyers and renters. The evident lack of concern for residual open spaces may thus, signal neglect of a neighborhood with a demoralizing effect upon the residents.[12]

The remainder of this chapter presents an overview of background information on early development of parks in Champaign, Illinois. Prior to the middle of the nineteenth century, open space provision was a private responsibility in the United States.[13] Acceptance of public park provision as a key city government function occurred in the late 1850s.

The role of urban parks has become increasingly important due to urbanization, rising land costs, population growth social diversity, and technological factors. Consequently, open spaces and human outdoor recreation have grown in popularity and have become a traditional community life in the United States.[14] In Illinois, the first park plan to be prepared was Chicago's South Parks Plan, in 1871 and in the City of Champaign, recreation has equally been an early community life and parks and facilities provision also has an early tradition and history.[15]

The first park in the City of Champaign, West Side Park, was opened in 1855.[16] This was followed by the opening of other parks including Beardsley Park in 1874, Stampofski Park in 1897, Scott Park in 1891, and Davidson Park in 1901[17]. Prior to the increase in the provision of parks,

more active recreation took place on vacant lots (residual open spaces) due to lack of facilities. This has been noted in a Champaign Park District (1983) Report:

> The earliest formal organization for providing park and recreation facilities and services occurred when a Township Park District for the Town of Champaign was organized on October 28, 1911. The Champaign Township Park District continued to operate until a general Park District was authorized by voters on April 5, 1955.[18]

Such organization became necessary in order to meet the recreational needs of the rapidly growing community. Since then the Park District has provided a broader service to the communities through new parks and recreation programs. Accordingly, the number of parks has grown from 35, occupying a total of 464.5 acres in 1983, to today's total of 57 parks and 11 facilities, in addition to twenty schools, each with its recreational facilities.[19] Clearly, Champaign, is endowed with outdoor recreational opportunities which all willing citizens should take full advantage for their recreation needs.

4.2. Summary

Open spaces are important part of the urban landscape and public amenity, and parks are regarded as a vital part of a city's range of recreational resources. The importance of recreational open spaces was long realized by the State of Illinois as noted in an Article of its Constitutio

n and subsequent official policy statements. While parks are purposefully designed for recreational usage, residual open spaces are the results of leftovers and neglected land reserved for purposes other than recreation. The definition of residual open space varies and is largely determined by the purpose and research interest.

My field observation during the survey for this study shows that there are more residual open spaces in African-American neighborhoods than in White neighborhoods. While some of these residual open spaces are reserved for future development others are the result of abandonment and neglect. The explanation for variation in patterns of distribution of urban parks and residual open spaces lies in the ecological concept of social segregation in the distribution of North American residential neighborhoods.

Notwithstanding their origin, and depending on their usage and care, urban open spaces can have both positive and negative impacts on their neighborhoods and residents. Historically, Champaign, Illinois, is endowed with outdoor recreational parks and residual open spaces and differences in usage can be explained by other variables rather than lack of parks.

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CHAPTER 5

DATA ANALYSIS

5.1. Procedure

In this chapter I present data on the profile of respondents and proceed to test various hypotheses. I analyze the sample data with the four aforementioned research questions in mind: first to look at the broad question of whether there are differences between the African-American and White racial households in recreational usage of parks and second, to examine the factors which account for such differences; third to examine the issue of constraints to usage of formal parks and facilities, and finally to examine any proclivity to use residual open spaces by the two racial groups in the study area.

I use descriptive statistics employing two variable levels: independent or predictor variables[1] consisting of demographic characteristics of race, age, sex, family income, occupation and education; dependent variables which are behavioral, and consist of social and psychological variables[2] including: perceptions, preferences, constraints or barriers, frequency of participation in activity, and proclivity to use residual open space. I correlate these variables to compare the pattern of usage of parks and residual open space of Whites and African-American residents of Champaign, Illinois. Data were categorized into nominal-level scaling and

analyzed by descriptive statistics using simple frequency distributions, percentages, and cross-tabulations. This enabled me to uncover observable tendency in the data. Hypotheses were tested and the existence of relationships determined by using the Chi-square statistic and the strength of relationships was examined using Cramer's V statistic.

5.2. Profile of Respondents

The questionnaire asked respondents to provide information related to the stated hypothesis of the study (see Instrument, Appendix B). The aim was to obtain at least one hundred and fifty 150(50%) responses out of three hundred (300) questionnaires administered. A total of one hundred and fifty three (153) responses were returned fully completed. Twenty nine of the responses from groups not included in the study were discarded, leaving one hundred and twenty four (124) responses found useful and adequate for my analysis. Fifty-one 51(41%) of these came from African-American households and seventy-three 73(59%) responses are from White households.

5.3. Descriptive Statistics

Table 1. shows the frequency and percentage of household survey responses by race and sex. It is seen that 9% of Black household respondents are male while 32% are females. The reason can be attributed to the fact that many heads of African-American households in the study

area are females. On the other hand, 45% of responses from White households are male while only 14% are female. This suggests an opposite tendency in household headship between Blacks and Whites, an observation I noticed while conducting interviews during the field survey.

Table 1. Household Response by Race and Sex

	Frequency			Percentage	
	Male	Female	Total	Male	Female
Black	11	40	51	23	78
White	56	17	73	77	22
Total	67	57	124	100	100

Table 2. shows the location of parks and open spaces according to Census Tracts and neighborhood composition as well as user preferences of parks in the study area. Respondents were asked to indicate which park or empty lot/land (residual open space, ROS) they or members of their household use for any type of recreation. The responses were analyzed in percentages according to respondents' household by race and sex. Comparing the two groups, we see that a greater proportion of both Whites and Blacks make more use of parks located in their neighborhoods than parks located in other neighborhoods.. For example, only 5% (2% female, 3% male) African-American compared to 100% (45%

female, 55% male) White households say they make use of Dodds park, located in a predominantly White neighborhood.

Similarly, 63% (35% female, 28% male) African-American compared to 0% White households say they make use of Douglas park which is located in a predominantly African-American neighborhood. In a fairly mixed neighborhood, the observation is somehow different. For example, 25% (10 female, 15% male) compared to 69% (30% female, 39% male) White households say they use Hessel park located in a fairly mixed neighborhood. Similar observation is evident in other parks studied in Table 2. This tendency may be attributed to the convenience of using nearby parks as each group makes less use of parks located in neighborhood population of another racial group.

African-American households on the other hand, tend to use more residual open spaces than White households. This tendency may be attributed to the fact that most of these residual open spaces are located in African-American neighborhoods. An interesting observation is that a sizable number of both African-Americans and Whites households living in Champaign indicated that they make use of recreational opportunities located in Urbana. Whether the reverse is the case and whether this follows a racial pattern was not investigated in this study.

Table 2 also indicates that more African-American female-headed households use neighborhood parks and open space than their male counterpart. For example, 35% African-American females compared to

Table 2. Park and Open Space Location and Percentage of User Preference

Park/ROS	Tract	Racial Make-up	Black Female	Black Male	White Female	White Male
			Percent	Percent	Percent	Percent
Dodds	9	White	2%	3%	45%	55%
Douglas*	2	Black	35%	28%	0%	0%
Hessel*	5	Mixed	10%	15%	30%	39%
Hazel*	5	Black	35%	30%	3%	4%
Centennial	12.1	White	2%	2%	37%	43%
Heritage	9	White	2%	4%	30%	50%
Beardsley	7	Black	54%	33%	0%	0%
Nelson Park.	3	Black	18%	25%	5%	7%
Davidson*	10	White	2%	5%	57%	43%
Glenn*	10	White	8%	15%	30%	60%
Eisner*	10	White	15%	18%	38%	52%
Morrisey	13	White	1%	1%	33%	56%
W. Side*	6	Mixed	43%	37%	38%	42%
Clark Park	11	White	1%	2%	44%	56%
Spalding*	7	Black	53%	47%	0%	0%
Willis	9	White	4%	4%	12%	20%
Wesley	2	Black	56%	44%	2%	2%
Scott	3	Mixed	47%	33%	22%	24%
Stampofsk	1	Mixed	28%	20%	38%	54%
West Side	6	Mixed	%	%	%	
Empty lots (ROS)	2/7	Black	58%	42%	2%	5%
				Urbana**		
Prairie			75%	25%	0%	0%
King			50%	20%	2%	1%
Crystal Lake			45%	55%	42%	58%
Blair			17%	17%	25%	42%
Carle			35%	38%	45%	56%
Empty lot (ROS)			30%	25%	1%	2%
Other			40%	20%	40%	20%

*Parks within the Tracts and neighborhoods sampled. **Although Urbana was not the study area, some respondents indicated preference for it's parks.

males 28%, and 54% females compared to 40% males indicate using Douglas and Beardsley parks respectively. This may be due to the same reason that most African-American households are headed by females and they are responsible for the recreational needs of members of their households. On the other hand, there is not much difference in preference between female and male White households in the use of their neighborhood parks and open space. For example, 45% White females compared to 55% males use parks. This suggests an opposite relationship in household heading between the two racial groups.

It is possible that the results so far reflected by the two racial groups would have been different if the study was concerned with individuals and not households in the sample. In this case, it would be expected that men engage in outdoor recreational activities somewhat more than women.

Table 3. presents the figures on the percentage of households using parks and residual open spaces. While 22(30%) of White households use parks between once a day and once a week 5(12%) of African-American households indicate they do the same. Similarly, 17(40%) African-American compared to 25(60%) Whites use parks once a week to once a month, while 20(48%) African-American compared to 26(62%) Whites indicate making use of parks in a month or more. On the whole, 42(100%) African-Americans and 73(100%) Whites make use of parks between once a day to over once a year.

On the other hand, 20% African-American households indicate using residual open spaces (ROS) once a day to once a week while only 1% of

White households say they do so. Similarly, 32% and 48% African-American households indicate making use of residual open spaces once a week to once a month and over once a month compared to only 3% and 5% respectively, White households who say they do so.

In all other recreational activities: walking, running or jogging, and nature watching, African-American households participate less than White

Table 3. Percentage frequency of engaging in activities by race

	once/day-once/week		once/week-once/month		more than once/a month		Percentage Total	
	B	W	B	W	B	W	B	W
Use park	5(12)*	22(30)	17(40)	25(60)	20(48)	26(62)	42(100)	73(100)
Use ROS	6(19)	1(20)	10(32)	2(40)	15(48)	2(40)	31(100)	5(100)
Walking	4(13)	16(22)	13(41)	27(37)	15(46)	30(41)	32(100)	73(100)
Run/jog	2(29)	9(21)	2(29)	14(33)	3(43)	20(47)	7(100)	43(100)
Nature Watching	2(20)	7(26)	3(30)	8(30)	5((50)	12(44)	10(100)	27(100)
Other	5(36)	9(45)	3(21)	7(35)	6(43)	4(20)	14(100)	20(100)

* Numbers in parenthesis denote percentages.

households. Only in nature watching, a non-active type of recreation do African-American households indicate high interest. On the other hand, more White households participate more in all activities described. This is an interesting observations which will be examined further by hypothesis testing. The results of such tests may raise important questions that may be of interest to other professionals such as health planners since lack of participation in active recreational activities may spell health problems. A recent study by Tuten, C et al. (1995), note that overweight among African-American females is almost two times as frequent as among White females.[3] Such difference in overweight might, among other factor, be due to lack of regular recreational activities of this group. These results do not support earlier findings by Meeker, Woods and Lucas (1973) that suggest that Blacks are more likely than Whites to utilize urban recreational facilities, nor does it refute the finding that Whites participate in wildlife recreation[4] (See[67]).

Clearly, while Blacks utilize urban park recreational facilities, my study indicates that they do not do so more than Whites. My field observation is that most African-American households use parks more as picnic grounds than for active recreation purposes. They prefer to sit, eat and chat, while the children play. Since most Black households are headed by females, more Black female households use park than their male counterparts.

Table 4. shows the age category of the survey respondents. As indicated, 14% of Black households compared to 3% White households are

Table 4. Respondents' Age Category

	Frequency		Percentage		Cumulative %	
Age	Black	White	Black	White	Black	White
19-24	7	2	13.72	2.74	13.73	2.74
25-44	15	20	29.40	27.40	43.14	30.14
45-65	13	28	25.54	38.36	68.69	68.50
Over 65	10	14	19.60	19.17	88.29	87.67
No Response	6	9	11.75	12.33	100.00	100.00
Total	51	73	100.00	100.00	100.00	100.00

between age 19-24. 29% of African-American and 27% White households heads studied are between 25 and 44 years while 26% of African-American and 36% White households are between 45 and 65 years respectively. 20% of African-American and 19% White households studied are over 65 years. The non-response rate is 12% for each group.

Data on occupation is listed in Table 5. It shows that there are more White than African-American households in all occupations. For example, 5(9%) of African-American compared to 14(19%) of White households are professionals. Similarly, 4(8%) African-American households and 10(14%) White households classify themselves as managers, while 3(6%) Black compared to 15(21%) White households are clerical workers. The percentage of households who are craftsmen are 5(10%) African-American

Table 5. Respondents' Occupational Status

	Frequency		Percentage		Cum. Percentage	
Occupation	Black	White	Black	White	Black	White
Professional	5	14	10	19	10	19
Manager	4	10	8	14	18	133
Clerical	3	15	6	21	23	53
Craftsman	5	9	10	12	33	66
Laborer	8	2	16	3	49	68
Service worker	2	2	4	3	52	71
Student	2	8	4	11	56	82
Military	2	3	4	14	61	86
Unemployed	14	2	27	3	88	89
Retired/Other	8	11	16	12	100	100
Total	51	73	37	63	100	100

and 9(12%) White households, while 8(16%) African-American compared to 2(3%) White households are laborers. 4% African-American and 3% White households say they are service workers. The percentage of the sample who indicated being students and in military occupations are 2(4%) African-American and 8(11%), 3(4%) respectively White households. Of those unemployed, 14(28%) are Black and 2(3%) are White households, while 8(16%) African-American and 11(12%) household heads are either retired or are in other occupation. Any difference in the figures above can be a reflection of the population difference of the two racial groups.

Respondents were requested to indicate their total annual household income from all sources which is presented in Table 6.

Table 6. Respondents' Income Category

	Frequency		Percentage		Cum. Percentage	
Income/yr.	Black	White	Black	White	Black	White
Under $20,000	32	6	72%	8%	72	8
$20,001-$40,000	6	32	13%	44%	85	52
$40,001-$60,000	2	23	4%	32%	89	84
Over $60,000	0	5	0%	7%	89	91
No Response	5	6	11%	8%	100	99
Total	51	73	100	100	100	99

The table shows that 32(72%) of African-American households and 6(8%) of White households studied earn income under $20,000 per annum. Also 6(13%) Blacks earn between $20,000-$40,000 compared to 32(44%) Whites who are in the same income bracket. 2(4%) African-American and 23(32%) White households earn $40,001-$60,000 and 5(7%) White household say they earn over $60,000. No African-American household indicated earning over $60,000 yearly income. The relationship between income and usage of park and residual open spaces will be determined later by hypothesis testing using the Chi square statistic.

Respondents were also requested to indicate their educational level in

Table 7. Respondents' Educational Level

	Frequency		Percentage		Cum. Percentage	
Education	Black	White	Black	White	Black	White
Less than 8th Grade	3	0	8	0	8	0
Some High School	7	3	18	4	26	4
High School Graduate	4	18	10	24	36	28
Some College	2	14	5	13	41	41
BA., BS Degree	3	20	8	26	49	67
MA./MS.	4	10	11	12	60	79
Ph.D.	1	5	3	7	63	86
Other	2	7	5	10	68	96
No Response	13	3	32	4	100	100
Total	39	73	100	100	100	100

Number of cases: African-Americans 39; Whites 73

one of eight categories. As shown on Table 7, of the total subjects who responded to this question, 47(38%) in all educational level are Blacks, and 77(62%) are Whites. 8(15%) of Blacks and 13(13%) White households have a high school diploma while

3(29%) Blacks compared to 20(40%) Whites households have college degrees. Also 4(32%) Black and 12(50%) White households had Masters degrees while 1(33%) Black and 5(54%) White households had Ph.D. degree.

Table 8 is a summary of descriptive statistics of respondents' background. From a total of one hundred and twenty four households

Table 8. Summary of Descriptive Statistics of Respondents' Background Information

	Mode		Median		Mean	
Variables	Black	White	Black	White	Black	White
Sex	Female (32%)	Male (45%)	N/A	N/A	N/A	N/A
Age (yrs.)	25-44 (12%)	45-65 (23%)	25-44 (15%)	45-65 (28%)	25-44 (15%)	45-65 (28%)
Family Income	<$20,000 (26%)		$20,000-$40,000 (10%)		$40,001-$60,000 (10%)	
		$20,000-$40,000 (26%)				$40,001-$60,000 (18%)
Education						
	Some College (12%)	BA/BS. (16%)	Some College (2%)	BA/BS (16%)	High Sch. (7%)	BA/BS (11%)

who participated in this study, ratio of Blacks to Whites was approximately 7 to 10 White households, respectively The table shows that the mean or average age range for respondents is 25-44 years for Blacks and 45-65 years for Whites. The household modal income level was $0-$20,000 (26%) for Blacks and $20,000-$40,000 (26%) for Whites. The modal value for level of education was some college for Black households and BA./BS. for White households.

Respondents were also asked to evaluate their constraint use of

Table 9. Percentage rating of constraints to utilization of recreational opportunities.

	Very Important		Important		Not Important		Total	
Constraint	B	W	B	W	B	W	B	W
Poor facility	17(47)	2(16)	14(39)	8(67)	5(14)	2(17)	36	2
No confidence	5(42)	2(22)	4(33)	1(11)	3(25)	6(67)	12	9
Other racial gp.	8(16)	14(33)	28(55)	13(31)	5(10)	15(36)	51	42
No interest	12(24)	3(21)	29(57)	4(29)	10(20)	7(50)	51	14
Family/friend	14(37)	12(34)	20(53)	18(51)	4(11)	5(14)	38	35
Overcrowding	17(39)	14(24)	12(27)	5(9)	9(20)	39(67)	44	58
Gang activities	19(37)	18(25)	24(47)	15(21)	8(16)	40(55)	51	73
Alcohol/drug	20(39)	10(16)	24(47)	18(29)	7(14)	35(56)	51	63
Regulations	14(22)	1(20)	17(33)	2(4)	20(39)	46(93)	51	49
No security	10(20)	15(33)	28(55)	23(51)	13(25)	7(16)	51	45

recreational opportunities (Table 9). Of those who responded to this question, African-Americans consider poor facilities a very important (47%) or an important (39%) reason for not participating in recreation. Variables also consider very important or important to respondents were alcohol and drug use (37%, 49%), overcrowding (37%, 47%), absence of family member or friend (37%, 53%), gang activities (37%, 47%), no security (20%, 55%) and lack of interest in recreation (24%, 57%). Similarly, White households consider poor facility (16%, 67%), lack of interest (21%, 29%), no family or friend (34%, 51%), overcrowding (24%, 9%), and gang activities (25%, 21%), as very important or an important

constraint. Similarly, the same racial group consider use of alcohol or drug (16%, 29%), and lack of security (33%, 51%) as important or important reason they will neither use nor participate in recreational activities.

The overall tendency indicates that African-American households consider all constraints variables, except 'other racial group' very important or important reason for non-utilization of recreational opportunities. On the other hand, White households consider these variables except poor facility as unimportant constraints. Of particular interest is the constraint of alcohol and drug use. While White households informed the researcher that there is no incidence of drug in their parks, they indicate this would be a constraint. On the other hand, some African-American households informed the researcher that gang activities including the use of drugs and alcohol was a problem in their neighborhood parks. The data in Table 9 suggests that the drug and alcohol use is more rampant in African-American neighborhood recreational parks than White neighborhoods. This assumption is not within the purview of this study and needs to be examined by further research. The existence of a relationship between perceived constraint and proclivity to use residual open space will be examined later under hypothesis testing.

Respondents also evaluated how they perceive parks located in their neighborhood and in other neighborhoods. The percentage result is shown on Tables 10a-10d.. As indicated, households of the two racial groups studied differ in their opinion on neighborhood parks. More

African-American households (59%) than White households (22%) believe that their neighborhood park is inadequate. On the other hand, more White households (48%) than African-American households (16%) agree that their neighborhood park is adequate. On how well maintained they view their neighborhood parks (Table 10b.) 41% White households compared to 18% African-American households consider their neighborhood parks well-maintained.

Table 10a. Perception of neighborhood parks

Your neighborhood park .		
Adequate		
	Black	White
Strongly agree	3(6%)	14(19%)
Agree	5(10%)	21(29%)
Strongly disagree	20(39%)	8(11%)
Disagree	10(20%)	7(10%)
No opinion	13(25%)	23(32%)
Total	51(100%)	73(100%)

Table 10b.

Well-Maintained

	Black	White
Strongly agree	2(4%)	18(24%)
Agree	6(5%)	12(10%)
Strongly disagree	11(22%)	14(19%)
Disagree	14(28%)	9(12%)
No opinion	18(35%)	20(28%)
Total	51(100%)	73(100%)

Table 10c. Perception of other neighborhood parks

Adequate

	Black	White
Strongly agree	13(26%)	21(29%)
Agree	6(12%)	14(19%)
Strongly disagree	11(22%)	7(10%)
Disagree	12(24%)	21(29%)
No opinion	9(18%)	10(14%)
Total	51(100%)	73(100%)

Table 10d.

Well Maintained

	Black	White
Strongly agree	8(16%)	14(19%)
Agree	9(18%)	28(38%)
Strongly disagree	26(51%)	14(19%)
Disagree	19(37%)	5(7%)
No opinion	18(35%)	12(16%)
Total	51(100%)	73(100%)

On how they perceive other neighborhood parks (Table 10c.), 46% African-American and 39% White households disagree while 48% and 38% of them agree that other neighborhood parks are adequate. Similarly, 16% African-American compared to 57% White households perceive other neighborhood parks as well-maintained, while 88% African-American compared to 26% White households disagree that this is the case. From Tables 10a-10d, the pattern is the same. African-American households view their neighborhood parks negatively while the opposite is the case with White households.

This pattern of responses were obtained even in census track six which is a mixed neighborhood. This suggests that race influences how respondents view neighborhood recreational opportunities even when such opportunity is located within a mixed neighborhood group. It further suggests that constraint to utilization of recreational opportunities may be more sociocultural and psychological rather than physical.

5.4. Testing the Hypothesis

Descriptive statistics so far have been used to initially interpret the data. This has shed light on sociocultural, socioeconomic and demographic variables which may be responsible for differences in utilization of recreational opportunities between the two racial groups. In this section I examine the relationship of each independent or explanatory variable to the dependent variable. Of particular interest is the relationship between constraint and proclivity for residual open space. The Chi-Square (X^2) test of independence is used to test the hypotheses of the study.

In a number of instances, analysis was concomitant upon collapsing of data as collected. Two dependent variables, park and residual open space (ROS) use, and six independent or predictor variables numbered (1) - (6) below, are used in the test. It is necessary, however, to note that this study had not been planned for analyses beyond the use of the Chi-

Square statistic. Interest beyond this level of analysis requires collection and classification of data at levels other than the nominal scale. The variables tested in this study are:

(1) race

(2) age

(3) educational level

(4) income level

(5) constraints to park use

(6) perception of parks, and

(7) how these might account for proclivity to use residual

open space.

It was first necessary to consolidate or collapse the ranges of some selected variables such as age, income, and educational categories of respondents into suitable new groupings for more precise and accurate results. The four age categories were consolidated into three as follows:

19-44 years

45-64 years

65 years and over

The eight educational levels were also consolidated into three.

8th grade-high school graduate

Some college-BA./BS

MA./MS-other

The five income levels were similarly consolidated.

$0-$20,000

$20,001-$40,000

$40,001-$60,000

and over 60,000

The Chi-Square test is to determine whether the variables are statistically independent or a relationship exists between them. Thus, the existence of differences between the two racial groups studied in their use of recreational opportunities were determined in relation to demographic and other social variables collected.

The level of significance was set at .05. for each tested hypothesis and the data shown on the following tables were obtained. The level of significance is, however, not a good indicator of strength because it depends on the size of the sample.[5] The strength of the relationships or associations that exist between selected variables, was further examined by a coefficient, the Cramer's "V" statistic[6]. Values of V between 0 and +1 are considered ideal. The larger the V value, the greater the degree of association or relationship, although this does not reveal the manner of the relationship between the variables.[7]

Such revelation can be determined through other techniques which are not within the plan of the study and therefore outside its scope at this stage. Interest beyond the Chi Square level of association should be pursued by further study using the multivariate or multiple classification statistical analysis approach. Inference will be made, however, wherever appropriate to studies that have used such analysis.

5.5. Hypotheses Testing

In this study, the following hypotheses were tested and the results recorded. The test was conducted by taking one variable at a time while holding other variables constant. This assures that the influence of other variables which may be associated with the variable being tested are minimized. The Chi-Square statistic was used to test relationships presented in hypotheses 1-15 and in Tables 11-24.

Hypothesis 1. Ho: There is no relationship between the use of parks and the race of households studied.

My task here was to decide whether or not to reject the null hypothesis at the .05 level of significance with degrees of freedom, df = 2. The relationship between the variable race of household and the frequency of park use (Table 11) was tested with a calculated Chi square value of $X^2 = 0.68$ recorded. A table of critical values indicates that for df = 2, a X^2 of 5.99 is needed to be significant at the .05 level. The

calculated value of 0.68 is not significant at or beyond the .05 level. Therefore I reject the null hypothesis Ho, that there is no difference in the use of parks for recreational activities between the two racial households studied, or that the use of park is independent of the race of households. Cramer's contingency coefficient V is 0.346. This does not indicate a strong relationship. The result is shown in Table 11.

Table 11. Relationship between race and frequency of park use.

Observed frequencies				Expected frequencies			
Race	1	2	3 Total	1	2	3	Total
Black	21	19	11 51	19.33	18.09	13.57	50.99
White	26	25	22 73	27.66	25.90	19.42	72.98
Total	47	44	33 124	46.99	43.99	32.99	123.97

X^2 = 0.68; df = 2; Critical Value = 5.99; Level of significance = 0.05; Cramer's V = 0.346; Number of cases = 124

Hypothesis 2. Ho: There is no relationship between the use of residual open space and race of households studied.

Similarly, my task here was to decide whether or not to reject the null hypothesis (Ho). Again, the level of significant was set at 0.05 with degrees of freedom, df = 2. A table of critical values indicates that for df = 2, a X^2 of 5.99 is needed to be significant at the 0.05 level. The calculated value is 4.99 and this is not significant at the 0.05 level. Therefore I reject the null hypothesis Ho, that there is no difference in the use of

residual open space between the two racial groups studied or that the use of residual open space is independent of the race of households studied. Cramer's contingency coefficient V is 0.184. The results are shown in Table 12. It is possible that the result is due to the influence of other variables on race not accounted for, and that when the influence of race is controlled, the hypothesis may not be sustained. This result supports earlier descriptive statistics (Table 2) which shows that more African-American than White households use residual open space.

Table 12. Relationship between frequency of residual open space use and race.

	Observed frequency				Expected frequency			
Race	1	2	3	Total	1	2	3	Total
Black	17	4	10	41	13.02	13.02	11.03	37.07
White	3	5	4	42	3.80	3.80	3.23	10.83
Total	20	20	17	63	16.82	16.82	14.26	47.79

$X^2 = 4.99$; df = 2; Critical Value = 5.99; Level of significance = 0.05; Cramer's V = 0.184; Number of cases = 63

Hypothesis 3. Ho: There is no relationship between the use of parks and the age of households studied.

The relationship between the demographic variable age and the household use of parks (Table 13) was tested by Chi square analysis with calculated value of $X^2 = 2.93$ recorded. The table of critical values indicates that the value of X^2 with df = 3 is 7.82 The calculated value of 2.93 was

not significant at the 0.05 level. Therefore, I reject the null hypothesis of no difference in the use of parks between the two groups studied in relation to the age of respondents. Cramer's contingency coefficient V was 0.618. This indicates a fairly strong association between age and the use of park for recreational activities.

This may be explained by the fact that young people in general, make more use of parks than elderly people. The older one gets the less recreational activities one engages in. The results are shown in Table 13.

Table.13 Relationship between frequency of park use and age of respondents.

	Observed frequencies			Expected frequencies		
Age	Black	White	Total	Black	White	Total
19-24 years	21	36	57	23.44	33.55	56.93
25-44 years	16	19	35	14.39	20.60	34.99
45-65 years	11	10	21	8.63	12.36	20.99
Over 65 years	3	8	11	4.52	6.47	10.99
Total	51	73	124	50.98	72.98	123.90

X^2 = 2.93; df = 3; Critical value = 7.82; Level of significance = 0.05; Cramer's V = 0.618 Number of cases = 124

Hypothesis 4. Ho: There is no relationship between residual open space usage and age of household.

Again, the relationship between the demographic variable of age and the use of residual open space by households studied (Table 13) was tested by Chi square analysis with calculated value of $X^2 = 7.85$ recorded. The table of critical values indicates that the value of X^2 with df = 3 is 7.82 The calculated value of 7.85 was significant beyond the 0.05 critical level. There is some evidence of an association between age and use of residual open space. Therefore, I reject the null hypothesis of no difference. Cramer's contingency coefficient V was 0.246. This however, indicates a weak association. The data are shown in Table 14.

Table.14 Relationship between frequency of residual open space use and age.

	Observed frequencies			Expected frequencies		
Age	Black	White	Total	Black	White	Total
19-24 years	14	3	17	13.33	3.66	16.99
25-44 years	11	2	13	10.20	2.80	13.00
45-65 years	9	2	11	8.62	2.37	10.99
Over 65 years	6	4	10	7.84	2.15	9.99
Total	40	11	51	39.99	10.98	50.97

$X^2 = 7.85$; df = 3; Critical value = 7.82; Level of significance = 0.05; Cramer's V = 0.058; Number of cases = 51

Hypothesis 5. Ho: There is no relationship between the use of park and educational level of households.

The Chi square calculated to determine the relationship between education and use of park was $X^2 = 1.77$. This value for four degrees of freedom was not significant at 0.05 level with $X^2 = 9.49$. This finding does not support the null hypothesis of no relationship between educational level of household studied and the use of recreational parks in the study area. The null hypothesis of no difference is therefore not sustained. Cramer's V of 0.088 however indicates a weak relationship.

Table.15 Relationship between frequency of park use and educational level.

	Observed frequencies			Expected frequencies		
	Black	White	Total	Black	White	Total
8th grade	8	14	22	9.05	12.95	22.00
Some college	14	26	40	16.15	23.55	39.65
BA./BS.	12	14	26	10.69	15.31	26.00
MA./MS.	9	9	18	7.40	10.60	18.00
Ph.D.	8	10	18	7.40	10.60	18.00
Total	51	73	124	50.69	73.01	123.65

$X^2 = 1.77$; df = 4; Critical value = 9.49 at level of significance = 0.05; Cramer's V = 0.088; Number of cases = 124

It is observed that the more educated make less use of urban recreation parks. This is explained by the fact that their higher educational level and therefore high income level enables them to seek recreation outside their neighborhood. The data are shown in Table 15.

Hypothesis 6. Ho: There is no relationship between the use of residual open space and educational level of households.

The Chi square calculated to determine the relationship between education and use of residual open space was 7.26. This value for four degrees of freedom was not significant at 0.05 level with X^2 of 9.49. This finding does not support the null hypothesis of no relationship between educational level of household studied and the use of residual open space in the study area. The hypothesis of no difference is not sustained. The data are shown in Table 16. Again, the Table of descriptive statistics indicate that more African-American households studied indicated use of residual open space than their White counterpart.

Hypothesis 7. Ho: There is no relationship between the use of park and income level. of households.

The Chi square value calculated to determine the relationship between income and frequency of park use was 1.07. This value for six degrees of freedom was not significant at 0.05 level with critical value of

Table 16. Relationship between frequency of residual open space use and educational level.

	Observed frequencies			Expected frequencies		
	Black	White	Totals	Black	White	Total
8th grade	19	2	21	17.66	3.34	21.00
Some college	8	2	10	8.41	1.59	10.00
BA./BS.	6	2	8	6.73	0.48	7.21
MA./MS.	2	1	3	2.52	0.48	3.00
Ph.D.	2	0	2	1.68	0.32	2.00
Total	37	7	44	37.00	6.14	43.21

$X^2 = 7.26$; df = 4; Critical value = 9.49 at 0.05 level of significance; Cramer's V = 0.241; Number of cases = 44

12.59. The obtained $X^2 = 1.07$ is not large enough to permit me to accept the null hypothesis. The null hypothesis of no difference between park use and income level of respondents studied is therefore negated. Cramer's V = 0.024, indicates a weak relationship. The data are shown in Table 17.

Table 17. Relationship between frequency of park use and income level.

	Observe frequencies			Expected frequencies		
Income	Black	White	Total	Black	White	Total
$0-$20,000	9	16	25	9.31	15.69	25.00
$20,001-$40,000	7	9	16	5.96	10.04	16.00
$40,001-$60,000	2	3	5	1.86	3.14	5.00
Over $60,000	1	4	5	1.86	3.14	5.00
Total	19	32	51	18.99	32.01	51.00

$X^2 = 1.07$; df = 6; Critical value = 12.59 at level of significance = 0.05; Cramer's V = 0.024; Number of cases = 51

Hypothesis 8. Ho: There is no relationship between the use of residual open space and the income level of African-American households.

Again the Chi square value calculated to determine the relationship between income level of Black households and frequency of residual open space use was 1.78. Again, this value for six degrees of freedom was not significant at 0.05 level with critical value of 12.59. The obtained $X^2 = 1.07$ is not large enough to permit me to accept the null hypothesis. The null hypothesis is therefore not sustained. Cramer's V = 0.042 indicates a weak relationship. This association indicates that level of income makes a

difference in proclivity to use residual open space by African-American households. The data are shown in Table 18.

Table 18. Relationship between frequency of residual open space use and income level of African-American households.

	African-American Household			
Income	Per: Wk.	Month	Yr.	Total
$0-$20,000	3(16)	7(37)	9(47)	19
$20,001-$40,000	5(28)	5(28)	8(44)	18
$40,001-$60,000	3(30)	3(30)	4(40)	10
Over $60,000	1(25)	1(25)	2(50)	4
Total	12(24)	16(31)	23(45)	51

$X^2 = 1.78$; df = 6; Critical value = 12.59; level of significance = .05; Cramer's V = 0.042; Number of cases = 51

Hypothesis 9. Ho: There is no relationship between the use of residual open space and income level of White households.

The relationship between income and the use of residual open space by White households was also tested by Chi square analysis and a calculated value of 17.17 was recorded. This value for six degrees of freedom was significant beyond the .05 level of 12.59. This association

leads me to reject the null hypothesis. It indicates that the higher the income level the lower the White proclivity to use residual open space. Cramer's V of 0.546 indicates a relatively strong association. The result is shown on Table 19.

Table.19 Relationship between frequency of residual open space use and income level of White households.

	White Household			
White Per:	Wk.	Month	Yr.	Totals
$0-$20,000	3(14)	6(29)	12(57)	21
$20,001-$40,000	3(28)	4(36)	4(36)	11
$40,001-$60,000	1(6)	5(29)	11(65)	17
$60,000 and over	3(16)	7(37)	9(47)	19
Total	10	22	36	68

$X^2 = 17.17$; df = 6; Critical value = 12.59; level of significance = 0.05; Cramer's V = 0.546; Number of cases = 68

Hypothesis 10. Ho: There is no relationship between perception of constraint and the use of park by African-American households.

The Chi square value calculated to determine the relationship between perceived constraint and frequency of park use by Black

households was 12.06. This value for ten degrees of freedom was not significant at 0.05 level with critical value of 18.31. This shows that there is a positive relationship between perception of constraint and the use of park by African-American households. Therefore, I reject the null hypothesis that use of park is independent of the perception of constraints by African-American households studied. Cramer's V value is 0.427, showing a fairly weak relationship. The data are presented in Table 20.

Table. 20. Relationship between perception of constraints and use of park by African-American households.

	Black household			
Constraint	Very Important	Important	Not important	Total
Poor facility	7(39)	7(39)	4(22)	18
Gang Activities	11(46)	9(38)	4(17)	24
Drug/Alcohol	10(40)	13(52)	2(8)	25
Overcrowding	7(39)	8(44)	3(17)	18
No security	7(44)	7(44)	2(13)	16
Ethnic group	3(21)	4(29)	7(50)	14
Total	45(40)	48(42)	22(18)	115

X^2 = 12.06; df = 10; Critical value = 18.31 at 0.05 level of significance; Cramer's V = 0.427; Number of cases = 115

Hypothesis 11. Ho: There is no relationship between perception of constraint and the use of park by White households.

Again the Chi square value calculated to determine the relationship between perceived constraint and use of park by White households was 11.27. This value for eight degrees of freedom was not significant at 0.05 level with critical value of 15.51. The null hypothesis of no difference in the use of park and perceived constraints by White households studied is also not sustained. Cramer's V of 0.224, however, indicates a weak relationship. The data are shown in Table 21.

Table. 21. Relationship between perception of constraint and use of park.

	White Household			
Constraint	Very Important	Important	Not important	Total
Poor facility	2(14)	2(3.26)	10(77)	14
Drug/Alcohol	1(11)	2(22)	7(71)	9
Overcrowding	4(27)	2(13)	9(60)	15
No security	6(26)	5(25)	12(52)	23
Other ethnic group	1(8)	6(50)	5(42)	12
Total	13(18)	17(23)	43(59)	73

X^2 = 11.27; df = 8; Critical value = 15.51 at .05 level of significance; Cramer's V = 0.224; Number of cases = 73

Hypothesis 12. Ho: There is no relationship between perception of neighborhood parks and the educational level of African-American households studied.

The calculated Chi Square value to determine the relationship between perception of park and educational level of African-American households was $X^2 = 4.26$. For a df of 4, a Chi square of 9.49 is needed to be significant at the .05 level. Therefore the null hypothesis of no difference in perception of neighborhood parks and educational level of African-American households studied is negated. The higher the educational level the higher the perception of neighborhood parks. Black households perceive their neighborhood parks negatively. Cramer's V was 0.063, indicating a weak relationship. The data are shown in Table 22.

Table 22. Relationship between perception of neighborhood park and educational level of African-American households.

	Black Household			
Perception	8th Grade/ High School	Some college/ BA./BS	MA./MS./ Other	Total
Adequate	4(40)	3(30)	3(30)	10
Well Maintained	5(33)	4(27)	6(40)	15
Poor	16(62)	6(23)	4(15)	26
Total	25(49)	13(25)	13(25)	51

$X^2 = 4.26$; df = 4; Critical value = 9.49 at .05 level of significance; Cramer's V = 0.063; Number of cases = 51

Hypothesis 13. Ho: There is no relationship between perception of neighborhood parks and educational level of White households studied.

The Chi square value calculated to determine the relationship between perception of park and level of education of White households was $X^2 = 3.21$. For a df of 4, a Chi square of 9.49 is needed to be significant at the .05 level. Therefore the obtained $X^2 = 3.21$ is not large enough to permit me to accept the null hypothesis of no difference in perception of neighborhood parks and educational level of White households studied. This indicates that the higher the educational level of Whites the more positive the perception of neighborhood parks. White households perceive their neighborhood parks positively. Cramer's V was 0.028, indicating a weak relationship. The data are shown in Table 23.

Table 23. Relationship between perception of neighborhood park and educational level of White households.

	White Households			
Perception	8th Grade/ High School	Some college/ BA./BS	MA./MS/ Other	Total
Adequate	15(47)	10(31)	7(22)	32
Well Maintained	20(54)	9(24)	8(22)	37
Poor	2(50)	0(0)	2(50)	4
Total	37(50)	19(26)	17(23)	73

$X^2 = 3.21$; df = 4; Critical value = 9.49 at .05 level of significance; Cramer's V = 0.063; Number of cases = 73

Hypothesis 14. Ho: There is no relationship between perception of neighborhood parks and income level of African-American households.

The Chi square value calculated to determine the relationship between perception of park and income level of African-American households was $X^2 = 7.45$. For a df of 4, a Chi square of 9.49 is needed to be significant at the .05 level. Therefore the obtained $X^2 = 7.45$ negates the null hypothesis of no difference in perception of neighborhood parks and income level of African-American households studied. This association indicates that income level makes a difference in the way African-American households perceive their neighborhood park. The higher the income the more negative the perception of neighborhood park. Cramer's V was 0.618, indicating a fairly strong relationship. The data are shown in Table 24.

Table 24. Relationship between perception of neighborhood park and income level of African-American Household

	African-American			
Perception	$0-$30,000	$30,001-$60,000	Over $60,000	Total
Adequate	7(44)	5(31)	4(25)	16
Well Maintained	5(45)	4(36)	2(18)	11
Poor	15(63)	6(25)	3(13)	24
Total	27(53)	15(29)	9(18)	51

$X^2 = 7.45$; df = 4; Critical value = 9.49 at .05 level of significance; Cramer's V = 0.618; Number of cases = 73

Hypothesis 15. Ho: There is no relationship between perception of neighborhood parks and income level of White households.

The Chi square value calculated to determine the relationship between perception of park and level of income of White households was $X^2 = 1.07$. For a df of 4, a Chi square of 9.49 is needed to be significant at the .05 level. Therefore, the obtained $X^2 = 1.07$ is not large enough to permit me to reject the null hypothesis that there is no difference or relationship in perception of neighborhood parks and income level of White households studied. This indicates that the higher the income level the higher the perception of neighborhood park as positive. White households of all income levels perceive their neighborhood parks positively. Cramer's V was 0.042, indicating however, a weak relationship. The data are shown in Table 25.

Table 25. Relationship between perception of neighborhood park and income level of White Households

	White			
Perception	$0-$30,000	$30,001-$60,000	Over $60,000	Total
Adequate	18(46)	14(36)	7(18)	39
Well Maintained	15(47)	12(38)	5(15)	32
Poor	1(50)	1(50)	0(0)	2
Total	34	27	12	3

$X^2 = 1.07$; df = 4; Critical value = 9.49 at .05 level of significance; Cramer's V = 0.024; Number of cases = 73

5.6. Summary

This study has analyzed differences in recreational usage of parks and residual open spaces by a sample of African-American and White households in Champaign, Illinois. The analyses reveal that some differences do exist in the use of park and residual open space between the two groups studied. Only two of the tests indicated no relationship and the null hypothesis of no difference sustained. This was the case in hypotheses four and nine. Each of this was related to use of residual open space and age, and income. In each case the results reveal that the African-American household is more likely to use residual open space than its White counterpart.

Differences in utilization of opportunities between the two racial groups is noticeable when age, income and other social status variables are used to classify them. The differences are also accounted for in the main by other variables such as perceived constraints in park use and perception of neighborhood park quality. When these variables are controlled or held constant race per se has no significant effect on utilization.

The study also reveals that African-American households generally perceive their neighborhood parks negatively, even those in a mixed neighborhood, while the opposite is the case with White households studied. The only explanation for this tendency is that race plays an important role in the way people perceive neighborhood park services. Perception of recreational opportunities in this way suggests that race

influences recreational patterns of groups, and thus supports previous studies reviewed.

This attitude perhaps, accounts in a large measure to the level of response of each racial group to opinion surveys. We would expect therefore to see no difference in utilization of recreational opportunities when such perception of constraints and bias are overcome. How this will be achieved is an issue for further research. However, and to the extent that this study was conceptualized and operationalized, the results have answered the research questions set out in chapter I.

5.7. Endnotes

1. Rabel J. Burdge and Donald R. Field, "Methodological Perspectives for the Study of Outdoor Recreation", Journal of Leisure Research, Vol. 4, (1972), p. 63.

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4. Timothy B. Knopp, "Environmental Determinants of Recreation Behavior", Journal of Leisure Research Vol. 4, Spring, (1972,) p. 129.

5. Gerald M. Barber, Elementary Statistic for Geographers, New York Guilford Press, (1988), p. 384; Shirley Dowdy and Stanley Wearden, Statistics for Research 2ed., Wiley Series in probability and mathematical statistics 1990.

6. Ibid.

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CHAPTER 6

RESULTS AND DISCUSSION

6. 1. Discussion of Results

The previous chapter tested the differences in utilization of parks and residual open spaces between Blacks and Whites in Champaign, Illinois, using the Chi square statistic (table 26). This chapter discusses the results and the implications of the analysis.

Hypothesis one tested the relationship between use of park and race. The result of 0.68 leads to the rejection of the null hypothesis of no difference. This indicates that race is statistically significant at the 5-percent level and that there is a difference between the two groups in the use of neighborhood parks. In this instance the first hypothesis of the study is not sustained.

Similarly, when race is tested in relation to proclivity to use residual open space, a X^2 of 4.99 leads to the rejection of the second hypothesis of no difference. This demonstrates that the propensity to use residual open space varies between the two racial groups. African-Americans use more residual open space than Whites. The use of residual open space is, however, not limited to a particular racial group. Race, by itself, is not a sufficient variable in explaining propensity to use residual open space. Race becomes significant in later hypotheses when socioeconomic variables are tested in relation to utilization.

Table 26. Summary of Chi Square Analyses for all Hypotheses

Hypothesis Number	N	X^2	df	Level	V	Critical X^2	Decision
1	124	0.68	4	0.05	0.346	5.99	Reject Ho
2	63	4.99	2	0.05	0.184	5.99	Reject Ho
3	124	2.93	3	0.05	0.618	7.82	Reject Ho
4	51	7.85	3	0.05	0.246	7.82	Accept Ho
5	124	1.77	4	0.05	0.088	9.49	Reject Ho
6	44	7.26	4	0.05	0.241	9.49	Reject Ho
7	51	1.07	3	0.05	0.024	7.82	Reject Ho
8	51	1.78	6	0.05	0.042	12.59	Reject Ho
9	68	17.17	6	0.05	0.316	12.59	Accept Ho
10	115	12.06	10	0.05	0.224	18.31	Reject Ho
11	73	11.27	8	0.05	0.024	15.51	Reject Ho
12	51	4.26	4	0.05	0.063	9.49	Reject Ho
13	51	3.21	4	0.05	0.041	9.49	Reject Ho
14	51	7.45	4	0.05	0.618	9.49	Reject Ho
15	73	1.07	4	0.05	0.042	9.49	Reject Ho

The third and fourth hypotheses relate use of park to age of respondents. The test of hypothesis three resulting in a X^2 of 2.93 and V value of 0.618 indicates that age has a strong relationship with outdoor recreation. The older the age group the less participation in active use of park and open space recreational activities. This result supports findings of earlier studies such as those of Watt[17], and Mueller and Gurin[31],

noted in Chapters One and Two respectively. This maybe an indication and a reflection of the relationship between age and physical capacity or a shift in interest. The null hypothesis of no difference in this study is accordingly not sustained.

In terms of age and use of residual open space, the result is quite the opposite. An X^2 of 7.85 is significant at the .05 level and the hypothesis of no difference is therefore sustained. This result can be explained by the fact that while the youth may engage in active pursuit, the old may engage in non-active utilization such as walking their dogs, and observing nature or even watching their grandchildren. In this case, the number of residual open space users in relation to age may not vary significantly. But when use is related to constraint and perception of formal park, a relationship of difference results.

On park use and educational level the finding of hypothesis five shows that the relationship is not significant and may be attributed to chance. The null hypothesis of no difference in this instance is also not sustained. While earlier studies indicate a strong relationship between education, with higher education reflecting greater participation, this study did not find such a relationship. On the contrary, households with higher education participate less in the use of neighborhood urban parks than those with lower education. This does not suggest that low education is generally associated with high participation. The result of this test can be explained by other variables. High education correlates positively with high occupation and income. Households with these characteristics tend to seek distant outdoor recreational opportunities.

Of interest is the results dealing with the relationship between income and use of residual open space. Clearly, while hypothesis eight is negated, hypothesis nine is sustained. This indicates that while high income White households make little or no use of residual open space, the African-American household does. This can be attributed in large part to other related variables of education and occupation as well as perception of parks and constraint to participation.

This is also an indication that the higher the income level the lower the proclivity to use urban residual open space as a recreational resource in the study area. In other words, income influences the recreational behavior of individuals or groups. This confirms earlier studies that differences do exist in both urban and rural outdoor recreation participation patterns of Blacks and Whites due to education and income differences of the two groups. But equal opportunities for groups may not necessarily result in no difference in recreational behavior because of the influence of race. This observation deviates from the assumptions of the opportunity theory.

The hypothesis of no difference between perception of constraint and the use of park by African-American households studied is not sustained. Similarly, hypothesis eleven of no difference between perception of constraint and the use of park by White households studied is negated. Clearly, the null hypothesis of no difference or that use of park is independent of the perception of constraints by Black or White households studied does not hold.

The Chi square value calculated to determine the relationship between perception of park and level of education of African-American

households was not large enough to permit an acceptance of the null hypothesis of no difference in perception of neighborhood parks and income level of this racial group. The more educated of this group perceive their neighborhood parks negatively. On the contrary, perception of neighborhood parks and income level of White households studied indicate that the null hypothesis of no difference is not sustained. This association indicates that the higher the income level of this group, the higher they perceive neighborhood parks positively. The summary and conclusions arising from the results of all hypotheses in this study are shown in Table 26.

This study reveals that differences do exist between African-American and White households in their usage of recreational resources in Champaign, Illinois. Out of 124 responses received from the survey about 32 percent came from African-American female headed households compared to 9 percent from their male counterpart. On the other hand, 45 percent and 14 percent male and female White households respectively, responded to the survey. The pattern is accounted for by the fact that most of the African-America respondents are females inferring that there are more female Black heads of the households studied than White head of households in the study group..

The study also reveals that 74 percent White versus 26 percent African-American households make use of parks about once a day to once a month. More Blacks, (77 percent), occasionally use residual open space compared to 23 percent of White households. The common assumption that the more aged the less active use of recreational

resources was examined by hypothesis three. The results indicate that among the factors which influence utilization, age is the only variable which is common to both Blacks and Whites.

Differences in usage emerge when the two groups are compared in relation to income, education and occupational status. It would be expected that improvement and equal opportunity in these areas would mean a change in preferences and equality in utilization of opportunities. The analysis indicates that the differences arise from the fact that the more educated and high income households make less use of their neighborhood parks. They perceive their neighborhood parks negatively probably because they can afford the cost of vacation and therefore use of distant recreational opportunities elsewhere. Thus, we see that low income households, especially African-American female headed households, use urban parks and residual open spaces more than high income households.

The major finding of my study is that African-American households do not use urban parks to the same degree as White households. This finding contrasts with findings of Meeker, Woods and Lucas (1973:3-7). My study indicates that perception of parks and facilities is a major factor which determines their use or non use by racial groups. African-Americans perceive their neighborhood parks negatively while the opposite is the case with Whites.

My study also, suggests that equal opportunity for racial groups may not necessarily result in no difference in recreational use of parks and open spaces as opportunity theory of Ogle (1972) assumes. Poor racial households are too preoccupied with daily survival to participate

effectively in conventional recreation. Consequently, they tend to use residual open spaces whenever they can.

6.2. Conclusion

In this study I examined the relationship between race and recreational usage of park and the proclivity to use residual open space. I hypothesized that African-Americans and Whites exhibit similarity in their usage of these resources. The data analysis yielded results that both supported and refuted the hypotheses of this study and those from the literature review and theoretical framework.

For example, my finding supports earlier findings by Washburne (1978), Klobus-Edwards (1981), Stamps and Stamps (1985), that race is an explanatory variable of differences in park and residual open space recreational preference and usage; Burdge and Field (1972), that outdoor recreation is a behavior which is culturally influenced and requires an understanding of participant cultures; Kelly (1980:129, 1989), and Washburne (1978:33), that recreational participation is a function of subculture socialization processes and value orientations, and that cultural similarities and differences of individuals and groups affect their recreational behavior. Stokowski (1990), that race relations are social arrangements that create for the individual the sort of order in which he can experience his life as making sense.

This study also supports Woodard (1988), that socioeconomic variables impacts African-American recreation behavior and attitudes; Crawford, Jackson, and Godbey (1991), and Jackson (1990), that psychological and

sociological constraint aspects of an individual or group affects his recreational behavior; and Carr and Williams (1993), that recreationists prefer those with compatible sociocultural definitions; and Ellis and Witt (1984), that participation in recreational activities is related to perceived freedom; Jackson and Dunn (1988), that the inability to participate more frequently in an activity is a sign of latent demand; Floyd, Gramann, and Saenz (1993), Hultsman (1993), that recreational constraints are associated with preferences.

This study, however, does not support the findings of Lindsay and Ogle (1972), that absence of income variation between recreationists will lead to equal participation; Meeker, Woods and Lucas (1973), that Blacks are more likely than Whites to utilize urban recreational activities; Edwards (1981), that ethnicity ceases to be a factor in recreation when blacks live in white areas; or Willie, (1974), Carr and Williams, (1993), McCormick, (1993, Woodard, (1988) Kelly, (1978), that changes in neighborhood composition through integration, results in homogeneous life styles and participation in similar recreational activities of racial groups. Washburne (1978), marginality theory suggests that Blacks do not participate in recreation because of poverty and the consequences of discrimination.

Clearly, outdoor recreation is important in the life of the citizen as a means of acquiring physical and mental health . The study, however, notes certain constraints to utilization of recreational opportunities in the study area. These constraints are both psychological and physical. Among the physical constraints identified are poor facilities, overcrowding, gang activities, alcohol and drug use, no security, rules and regulations guiding

the use of facilities. Psychological constraints include lack of confidence, lack of interest, no family or friend, and perception of facilities.

In general, the analyses indicate differences rather than similarities between the two racial groups when controlling for subjective variables. This was observed for the ranking of household activity participation in park and residual open space, perception and constraint use of park. Craig (1972:115), had indicated that African-Americans historically, have limited recreational experiences. According to him, "the important restraining variables were rigid segregation policies, low income, and lack of leisure time."[5]

Craig (op. cit.), believes these restraints are undoubtedly important contributors to African-American recreational behavior patterns. And "there is apparently a carry over of the historical restraints to present recreational patterns so that present behavior does not significantly deviate from that of the past" (op. cit.). This carry over behavior is, no doubt, contributes to differences in recreational usage of parks and proclivity for residual open space.

Finally my study, though exploratory in nature, is a contribution to the ongoing debate on the significance of race as a determinant of recreational participation.

6.3. Limitations and Implications

The most obvious limits placed on the implementation of this study and the use of its findings are those inherent in lack of funding to hire assistants. The implication arising from this is the limitation of sample

size of some responses, for example, residual open space use response. Although an inference can be made to a larger population of the two groups studied, it may not be extended to other racial groups. Another limitation of my study is that subjects are households and findings on individual subjects might differ.

A more complete picture might, however, emerge if the inquiry is extended to other racial groups and larger segments of the population. Nonetheless, this study will provide a basis for a more comprehensive study and information about the physical and psychological recreational differences among groups for the benefit of planners and other professionals.

A further implication arising from this study is that different racial groups should be provided adequate facilities that meet their respective needs. Although this may not be a cost-effective option, it might eliminate negative perception of recreational resources and improve respond rates in opinion surveys. The results from my study may however, not deviate from those obtained by using trained assistants, increased subjects if data collection and analysis are similarly operationalized. The limitations and implications of this study lead to my recommendations for future research.

6.4. Recommendations

Although, this study has made some contribution on urban recreation, it is a single approach, a concept of 'transcendental realism' based on law-governed world independent of man, and not on

generalization which is necessary in creating a universally agreed criteria or law. The study should serve as a basis for a more comprehensive study along this line to broaden understanding of this subject. It is important that the theoretical comparison of African-American and White groups be extended to include other racial groups in the city.

It will be theoretically more beneficial for such studies on racial differences be extended to countries of origin of these racial subgroups in the United States. This will confirm the findings and theoretical concepts of studies which indicate that differences in group recreational pattern is due to racial or ethnic subcultural behavior.

A more comprehensive study should include other racial and population groups to increase the number of respondents. A more rigorous statistical technique such as multivariate analyses should be utilized to correlate the validity of this study.

The results of this study have lead me to offer specific insights for improving recreational opportunities which will yield positive results associated with recreation: creating feeling of social acceptance in community while maintaining racial pride, fostering harmony which will reduce anti-social behavior and enhancing healthy habits and a productive citizenry. It is hoped that this study will help the Champaign Park District in its continued effort to improve its quality of recreational opportunities in the city.

6.5. Endnotes

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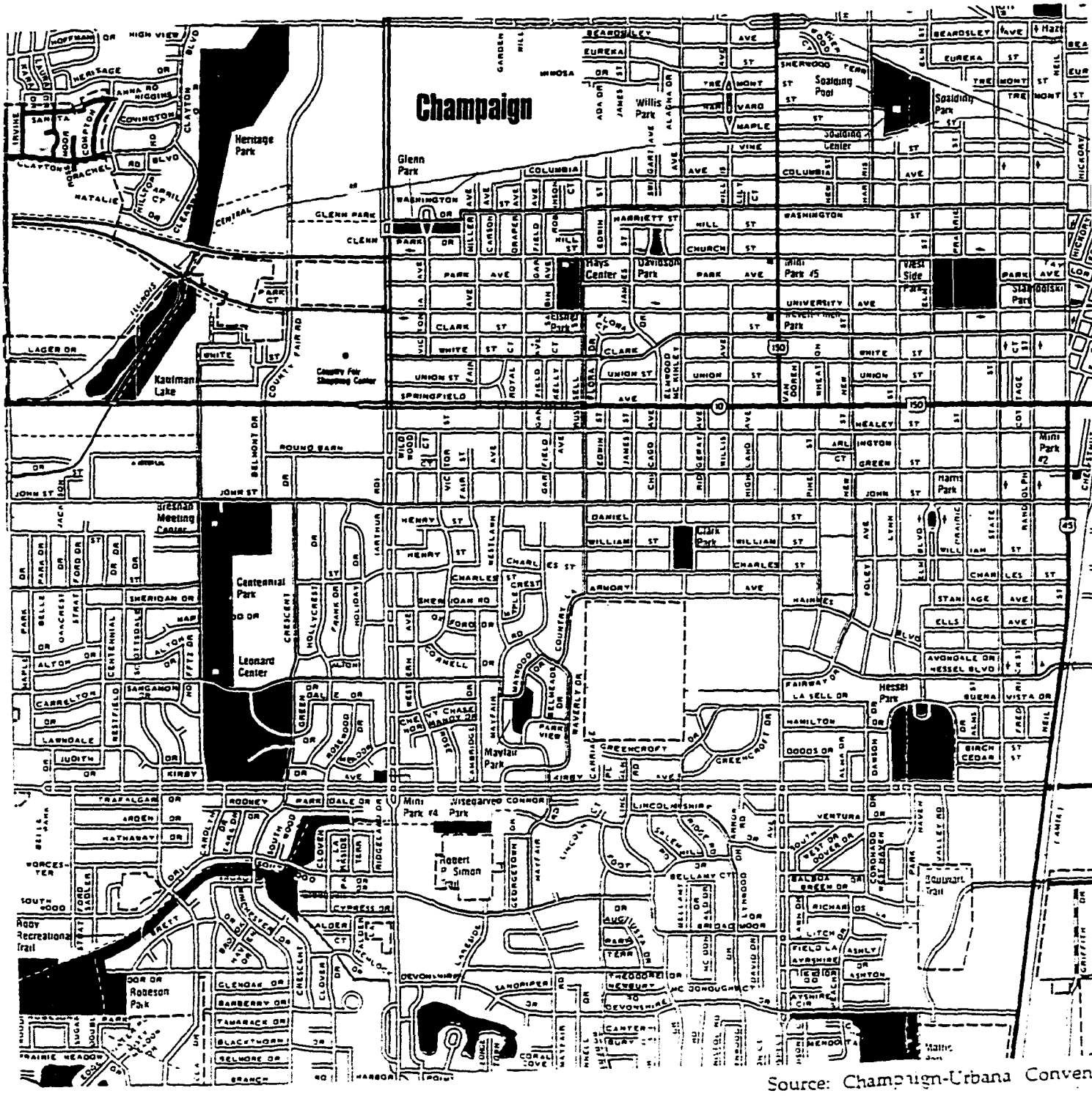
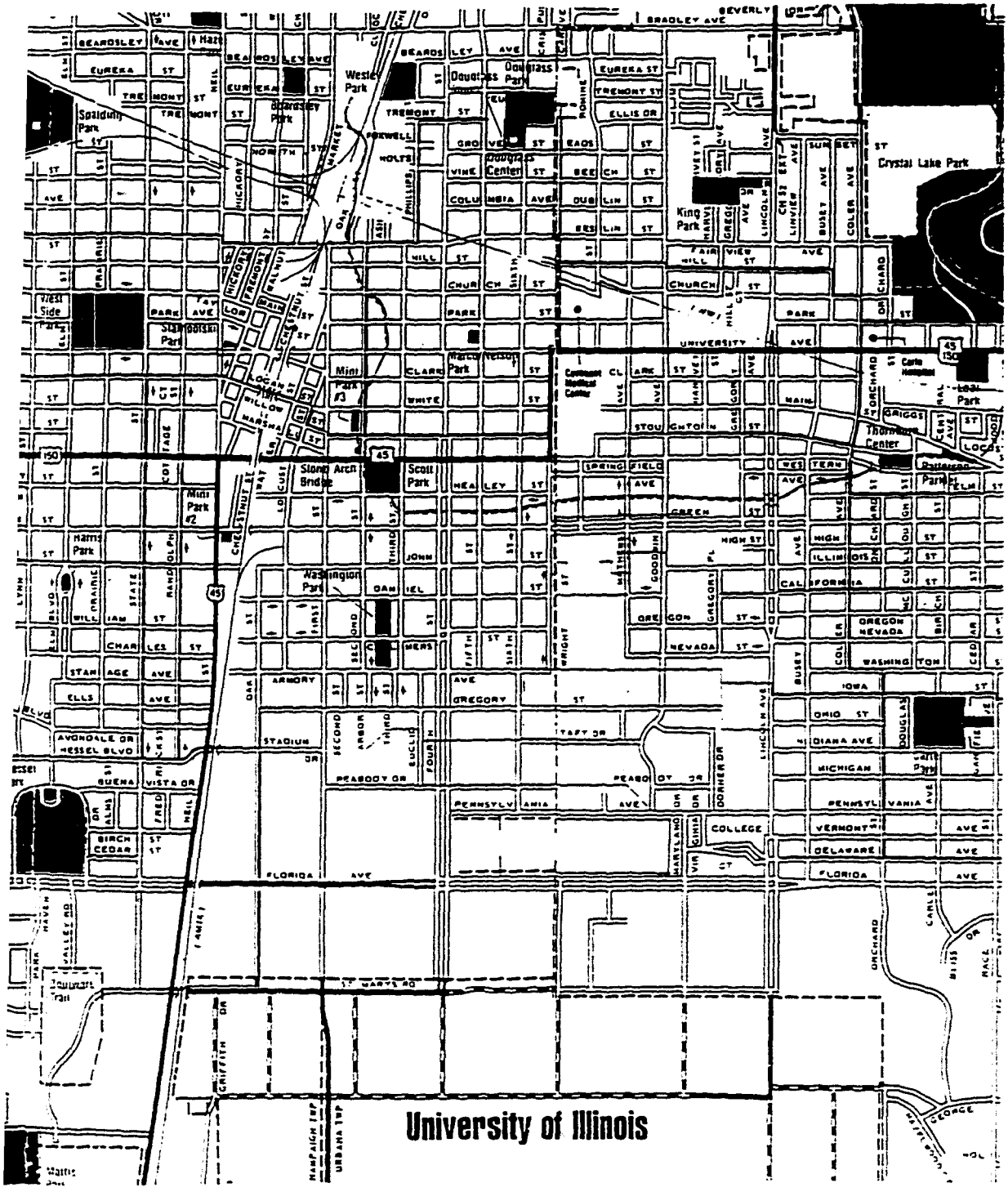
APPENDIX A. Location of Parks in Chan



Source: Champaign-Urbana Conven

3

of Parks in Champaign, Illinois



ıc ıign-Urbana Convention & Visitors Bureau. August 1992.

APPENDIX B

Open Space Recreation Participation Survey June 1994

Dear Resident:

I am a graduate student at the University of Illinois at Urbana-Champaign. I am conducting a study of recreational use of parks and open land spaces (residual open spaces) in the City of Champaign.

I will appreciate your frank answer to all the questions. Your responses are strictly confidential and no information about any individual is given to anyone.

Please return the completed questionnaire in the self-addressed and stamped envelope which has been enclosed for your convenience.

Your early response will be greatly appreciated. Thank you.

Sincerely,

Matthew O. Alu
Department of Geography
220 Davenport Hall
607 South Mathews Ave.
Urbana, IL 61801

APPENDIX B

Survey Instrument

1. Do you or members of your household use public parks for recreation?

___ Yes ___ No

2. Do you or members of your household use other open spaces such as undeveloped lots and empty lands within the city for any type of recreation?

___ Yes ___ No

3. Please write the name(s) of the park(s) and empty lands which you or members of your household prefer to use in Champaign. If you don't know the name, please describe where it is located.

Champaign Parks	Urbana Parks
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
Empty lots/Land	
_____	_____
_____	_____

4. How often do you or members of your household use the parks or open spaces indicated in question 4 above?.

___Daily ____Once a week ____More than once a week

___Once a month ___More than once a month ____Once a year

___More than once a year

Other (specify)_____

5. How often do you or members of your household do the following activities?

	Once a day	Once a week	More than once a week	Once a month	More than once a month	Once a year	More than once a year
Activity							
Use Parks	__	__	__	__	__	__	__
Use empty lots/ open space (ROS)	__	__	__	__	__	__	__
Walking	__	__	__	__	__	__	__
Run/jog	__	__	__	__	__	__	__
Nature watching	__	__	__	__	__	__	__
Other(specify)	__	__	__	__	__	__	__

6. Is the park or open space you or members of your household use located within your neighborhood? _____ Yes _____ No

7. Do you or members of your household use other parks outside your neighborhood?.

_____Yes _____No

8. How important are the following as reason why you or members of your household will choose not to take part in park activities?

	Extremely important	Very important	Moderately important	Slightly important	Not important
poor facility	_____	_____	_____	_____	_____
No confidence	_____	_____	_____	_____	_____
Unfriendly	_____	_____	_____	_____	_____
atmosphere	_____	_____	_____	_____	_____
Other racial groups	_____	_____	_____	_____	_____
No Interest	_____	_____	_____	_____	_____
Family/friend	_____	_____	_____	_____	_____
Overcrowding	_____	_____	_____	_____	_____
Gang activities	_____	_____	_____	_____	_____
Use of alcohol or drug	_____	_____	_____	_____	_____
Rules	_____	_____	_____	_____	_____

Uninteresting program	____	_____	_____	_____	_____
Physical inability	____	_____	_____	_____	_____
Fees and other charges	____	_____	_____	_____	_____
Cost of Equipment	____	_____	_____	_____	_____
I have no time	____	_____	_____	_____	_____
No security	_____	_____	_____	_____	_____

9. Do you agree or not that park facilities are adequate, well maintained in all neighborhoods?.

_____strongly agree _____ agree

_____strongly agree _____ disagree _____ no opinion

10. Compared to parks in other neighborhoods, how would you rate the parks in your neighborhood?

_____ excellent _____ good _____ fair _____ poor

_____ never used facility _____ no opinion

11. In general, how crowed do you view the parks and recreation facilities you use in the City of Champaign or Urbana?

Champaign	Urbana
____ very crowded	_____ very crowded
____ about right	_____ about right

____ not crowded ____ not crowded

____ never used facility ____ never used facility

____ no opinion ____ no opinion

12. Are you: ____ Male ____ Female

13. Are you the head of the household? ____ Yes ____ No

14. What is the highest level of education completed by you or the head of the household?

____ No school ____ eighth grade or less ____ Some high school

____ High school graduate ____ Some college ____ College graduate

with: ____ BA./BS. ___ M../MS.. ___ Ph.D. ___ Other ____

15. What is your occupation or the occupation of the chief wage earner of the household? (Check one)

____ Professional or technical ____ Manager ____ Clerical or sales

____Craftman or foreman ____ Operative or laborer ____ Service or Worker ____ Farmer ____ Student ____ Military ____ Unemployed

Other(specify)_____

16. Which total annual income range does your household fall within? (Check the most appropriate)

____$0- $20,000 ____, $20,001-$40,000 ____, $40,001-60,000

____ Over $60,000

17. Do you consider you neighborhood racially mixed or not?

_____ mixed _____ not mixed

18. What age range do you fit in? (Please check one)

____ Under 19 ____ 19-24 ____ 25-44 _____ 45-64 ____65 or over.

19. What ethnic or racial group do you consider yourself a part of?

____ African-American ____ White Caucasian ____ Native America

____ Asian - American ____ Of Hispanic Origin _____ Other _____

20. In general, what would you say about the recreational opportunities and experiences you have in Champaign-Urbana?

____ Very satisfied _____ Satisfied _____ Somehow satisfied ____ Not satisfied

21. Comment on improvements you would like to see in recreational opportunities in your neighborhood or in the City.

Thank you for your time.

Vita

Matthew Okpani Alu
Department of Geography
220 Davenport Hall
607 S. Mathews Avenue
University of Illinois at Urbana-Champaign
Urbana, IL 61801
Ph. (217) 333-1880, Fax (217) 244-1785

Date of Birth: 16th February 1945

Place of Birth: Ezi Agabi Amangballa, Afikpo (Ehugbo), Nigeria

Marital Status: Married with children

Academic Training

Ph. D. University of Illinois at Urbana-Champaign, August 1991 - December 1996
Major: Geography (Emphasis: Urban, Regional, Recreation)
Minors: Urban & Regional Planning, Cartography/GIS

M. A. University of Washington, Seattle, Washington August 1980 - June 1982
Major: Geography (Cartography, Urban)
Minor: Urban and Regional Planning

B. A. University of Washington, Seattle, Washington Spring 1978 - June 1980
Major: Geography (Cartography, Urban)
Minor: Urban and Regional Planning, Political Science

Other Training

Certificate in Administration
Integrated Program in Administration, Graduate School of Administration, University of Washington, (Summer 1982)

Advance Technical Certificate in Cartography

Advanced Cartographic School, Federal Survey School, Lagos, Nigeria, 04/74-05/75

Attended many workshops on teaching excellence and on Cartography/GIS

Teaching Experience

Instructor

Indiana University of Pennsylvania (IUP). Full time
08/95-05/96
Courses taught: GE 104- non-Western World, GE 313/513 Cartography II, and GE 623 Regional Development

Instructor

Parkland College, Champaign, Illinois. Full time spring, 1992.
Course taught: World Regional Geography

Senior Lecturer

Imo (now Abia) State University, Uturu, Nigeria. Full time
09/87-08/90
Courses taught: cartography, urban geography, transportation, rural/urban settlement and development, Quantitative/Research Methods

Lecturer I

Imo (now Abia) State University, Uturu, Nigeria. Full time
08/85-08/87
Courses taught: cartography, urban geography, transportation, rural/urban settlement and development, Quantitative/Research Methods

Lecturer II

Imo (now Abia) State University, Uturu, Nigeria. Full time
08/85-08/87
Courses taught: cartography, urban geography, transportation and commercial geography

Assistant Lecturer

Imo (now Abia) State University, Uturu, Nigeria. Full time
08/83-08/85
Courses taught: cartography, urban geography, transportation and commercial geography

Instructor

National Youth Service Corps (NYSC) period, Alvan Ikoku College of Education, Owerri, Nigeria. Full time 01/83-08/83

Areas of Professional Interest

Human/Economic/Cultural

Urban Geography; Rural, Urban and Regional Development; Third World Development; Welfare Planning for Cultural Diversity; Recreation

Applied Geography

Cartography; Geographic Information Systems (GIS), Research Methods

Regional

Africa, Southeast Asia

Research Experience

Graduate GIS/Cartography support

Illinois State Geological Surveys, 07/94-08/95. Involved in field surveys (data collection), data entry into DOS files and converting to UNIX files; manipulating the data using ArcInfo GIS program to create bathymetric profiles and maps of erosion and accretion of Lake Michigan beach, Lake Forest, Illinois

Illinois State Water Survey, 01/94-07/94. Involved in digitizing and creating flood maps, and Air quality maps of various elements

Research Assistant GIS/Cartography

US Army Corps of Engineers, Construction Engineering Research Laboratory (USA-CERL), Champaign, Illinois, 03/91- 08/94. Involved in creating global soils files and manipulation using GRASS GIS program to create environmental sensitivity maps

Other Work Experiences & Services

Community Development

Actively participated in East St. Louis neighborhood development project which resulted in Master Plan Development, URP 494 class, Spring 1991, University of Illinois at Urbana-Champaign

Resource Person Cartography/Community Development
Carried out a project on community structure, identification/mapping of local government areas in Imo State (now, Imo and Abia States,

Imo State Government:
Technical Officer, Cartography/Urban Planning 1970-1977

Publications

Journal Articles

Trask, C. Brian, Chrzastowski, Michael J., and Alu, Matthew O., (1995) "Adjustment of Nearshore Sediment-Transport Processes to an Engineered Shore Facility at Lake Forest, Illinois" Geological Society of America, Vol. 27, No. 3

Chapters in Books

Okpara, E. E. and **M. O. Alu** , (1991) "Erosion Menace in the Eastern States of Nigeria, in "Nigeria's Threatened Environment: A National Profile, NEST, Ibadan, Intec. pp. 4-58.

Alu, M. O., (1990) "Computer Cartography in Census Planning and Mapping" Census Mapping, Lagos, a book chapter.

Alu, M. O. (1988) "The Map As a Vehicle for Rural Development", in U. M. Igbozurike (ed.) Critical Issues in Rural Development, Proceedings of the 2nd. National Annual Seminar on Rural Development, November 1-4, pp. 451-458, Owerri, Kartopress.

Arunsi, S. I. & M. O. Alu, (1988) "Transportation: Past, Present, & Future" in U. Igbozurike (ed.), Socioeconomic Development of Orlu Local Government Area, Owerri, Kartopress. pp. 103-110.

Alu, M. O. (1988) "Commercial Systems and Activities" in U. M. Igbozurike (ed.) Socioeconomic Development of Orlu LGA, Owerri, Kartopress, pp. 77-81.

Alu, M. O. (1988) "Passenger Transportation Rates: A Comparative Analysis," in N. I. Ngoka, (ed.) Effective Mass Transportation System in Nigeria: Problems and Prospects, Enugu, ASUTECH.

Alu, M. O. (1986) "Commercial Activities" in U. M. Igbozurike, (ed.), The Isuikwuato-Okigwe Region, Owerri, Kartopress, pp. 91-108.

Presentations at Professional Meetings

Matthew O. Alu & Christian Nwosu (1996). An Analysis of Periodic Market Systems in Orlu Local Government Area of Imo State, Nigeria. AAG 92nd. Annual Meeting, 9-13 April 996, Charlotte, North Carolina Abstracts, p. 5.

Robert C. Lozar and **Matthew O. Alu,** (1996) "Global Soils Research" To be presented at the AAG Conference at San Antonio, Texas.

Matthew O. Alu (1995) "Community Organization in Abia and Imo States of Nigeria: A Case Study of Rural Development Approach in a Third World Society" Pennsylvania Geographical Society Annual Meeting, November 3-4, West Chester University/Holiday Inn of West Chester. To be published in a proceeding

Matthew O. Alu. (1995) "Creating Effective Public Agencies in A Changing Political Environment: The Nigerian Experience." Presented at Planners Network, East Louis, May 19-21.

Alu, M. O., (1989) "Road Transportation Facilities Maintenance: A Geographic Appraisal of the Public and Private Sector," in Transportation Facilities Maintenance , Zaria, Nigerian Institute of Transport Technology (NITT).

Alu, M. O. (1988) "National Transportation Policy: A Panacea for Effective Transportation System for Nigeria", in Transport Technology and Implications for National Development, Lagos, NITT.

Alu, M. O. (1984) "The Role of Cartography in the Planning Process: The Case of the Petroleum Industry in Nigeria." Proceedings of the 6th Annual Conference of the Nigerian Cartographic Association, Port Harcourt, November 27-30.

Alu, M. O. (1982) "Cartography As an Essential Tool in Regional Planning and Development" Unpublished MA. Thesis, University of Washington, Dept. of Geography, Seattle, WA.

Guest Lectures

"Our Cultural Baggage: Need for Adjustment in A Global Village" A Program Presented to Residents of Wallace Hall, Indiana University of Pennsylvania, April 25, 1996

"Issues in African Development: The Case of Nigeria", Parkland College, Champaign, Illinois Spring, 1992

"Internal Obstacles to Third World Development: The Example of Africa", Geography of Third World Development Department of Geography, 1992

"Cartographic Education in a Developing Society", College of Technology, Owerri, Nigeria 1990

Professional Affiliation

Member, Association of American Geographers (AAG)
Member, Illinois State Geographic Information Systems Association
Member Pennsylvania Geographic Society
Member, Urban and Regional Information Systems Association (URISA)
Member, Planners Network

Extra-Curriculum Activities

Outdoor Recreational Activities, Social and Community Activities, Reading, Music and Dance.