

ABSTRACT

THOMPSON, TIMIA DANISE. Examining the Effects of Race, Ethnicity, Gender, Age, and Socioeconomic Status on U.S. National Park Visitation: An Application of the Multiple Hierarchy Stratification Perspective. (Under the direction of Myron F. Floyd.)

The purpose of this study was to examine the effects of race and ethnicity, gender, age, and socioeconomic status on visits to U.S. national parks. The growing diversity of America's social landscape as well as declining national park visitation underscore the importance of understanding the sociodemographic correlates of outdoor recreation participation, particularly national park visitation. This study employed the multiple hierarchy stratification (MHS) perspective to assess the cumulative effects of multiple disadvantaged statuses on visits to parks.

It was hypothesized that race and ethnicity, gender, age, and socioeconomic status would individually exert a negative influence on park visitation. Additionally, the second hypothesis asserted that the combined effects of the above variables would result in older minority females without college degrees occupying the lowest stratum of the multiple hierarchy stratification continuum and younger White males with college degrees occupying the highest stratum. A secondary data set from the National Park Service Comprehensive Survey of the American Public (2001) was used to examine these hypotheses.

Crosstabulations with chi-square and multivariate logistic regression showed that individuals in singular disadvantaged statuses as well as multiple disadvantaged statuses were less likely to visit national parks. This is consistent with previous studies of the multiple hierarchy stratification perspective. Education was shown to be the strongest predictor of visitor status. Further investigation into other correlates affecting park use should be conducted.

Examining the Effects of Race, Ethnicity, Gender, Age, and Socioeconomic Status on U.S.
National Park Visitation: An Application of the Multiple Hierarchy Stratification Perspective

by
Timia Danise Thompson

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Approved by:

Jason Bocarro, Ph.D.

Karla Henderson, Ph.D.

Myron F. Floyd, Ph.D.
Chair of Advisory Committee

DEDICATION

“Come to the edge.

We might fall.

Come to the edge.

It's too high!

COME TO THE EDGE!

And they came,

and he pushed,

and they flew.”

--Christopher Logue

This thesis is dedicated to those who believed in me when I didn't believe in myself. For challenging me above and beyond my limits, I thank you! Cliff diving ain't so bad after all.

BIOGRAPHY

Timia D. Thompson was born and raised in Columbia, South Carolina. She is a graduate of the School of Natural Resources and Environment at the University of Florida (UF), where she received her Bachelor's degree in Environmental Science with a minor in English. During her studies at UF, Timia became interested in issues of race and gender as they relate to identity and aspects of social inequality. An internship with the School of Forestry and the Florida National Scenic Trail Association sparked her interests in state and federally managed lands, specifically state forests and national parks.

In 2005, Timia moved to Raleigh, NC to attend North Carolina State University. While working on her Masters degree in the Department of Parks, Recreation and Tourism Management, she was fortunate to be involved in a number of research projects. Her interests further expanded to include issues of social and environmental justice, race, ethnicity, and gender, as well as national and urban park use. She spent a summer working with the Student Conservation Association and the National Park Service at the Chattahoochee River National Recreation Area in Atlanta, GA. Here she did festival planning and resource education programming.

Timia is a member of the George Wright Society and the National Recreation and Park Association (NRPA). She currently sits on the board of the NRPA Student Branch Board of Directors as President-Elect. She hopes to continue her educational career in the doctoral program at NC State with the intention of becoming a university professor.

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Chapter 1

Introduction

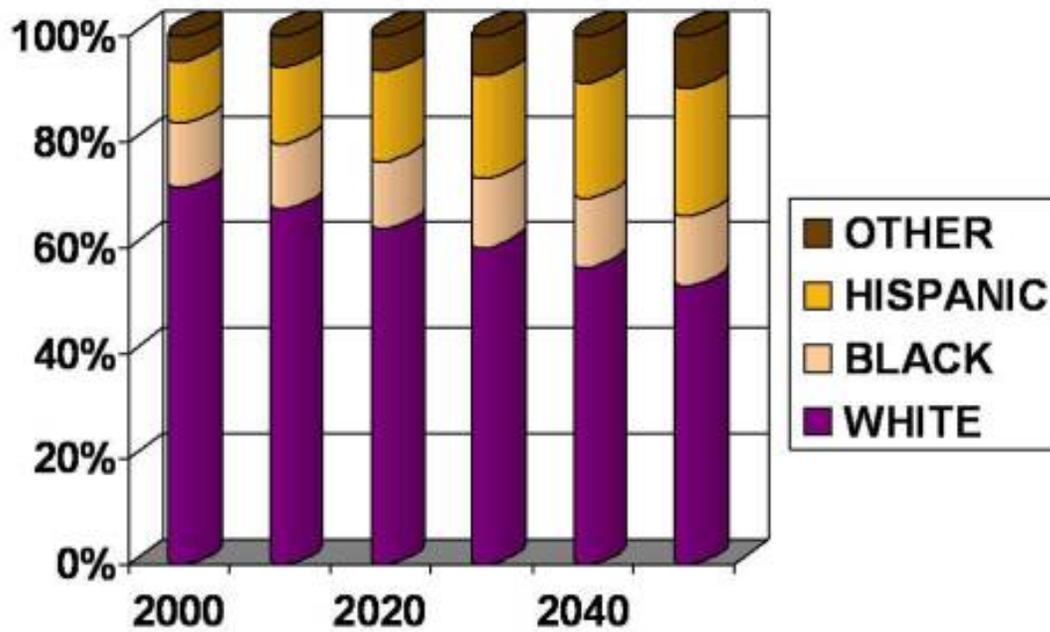
In 1916, Congress established the National Park Service to conserve the nation's natural and cultural resources unimpaired for the enjoyment of future generations. Nearly a century since the creation of National Park Service, the world has changed tremendously. As the social composition of America shifts, so too does its people including visitors and potential visitors to U.S. national parks. Today, one must envision and provide for a system of parks, programs, and management that will benefit a new and vastly diverse generation of people.

In the early days of the park system, only select groups visited national parks. Expense of travel to these early parks during the first 50 years meant these parks became semi-exclusive resorts for the wealthy (Goldsmith, 1994). However, Goldsmith (1994) argued that with the proliferation of automobiles, though the number of visitors expanded, a debate ensued over questions of access to the nation's greatest treasures.

As the population of the United States continues to grow, it is also becoming more diverse. By the year 2050, the U.S. Census projects that non-Hispanic Blacks, Hispanics, and other minority subpopulations will constitute an almost equal number with White, non-Hispanics (Figure 1.1). It is projected that Hispanics, of any race, will alone constitute a quarter of the population (U. S. Census, 2000a). A shift in racial and ethnic diversity presents a variety of cultures and associated values connected to those cultures. Despite research since the 1960s, which has focused primarily on black-white dichotomies, there remains a deficiency of social science research on ethnic minority use of national parks. As visitors and potential visitors to

parks become more culturally diverse, managers will need more information to create inclusive environments for a diverse public (Floyd, 1999).

Directors Orders 75A (NPS Office of Policy and Regulations, 2003) mandates that the National Park Service be inclusive and committed to public involvement and stakeholder needs in whatever capacity possible. As such, park managers will need to review their services vis-à-vis the needs of an increasingly diverse population in order to foster inclusive environments conducive to minority involvement. Though minority subpopulations of the US continue to grow, with Hispanics and Asians being the most rapidly growing populations (Floyd, 1999), racial and ethnic minorities remain effectively absent from most national parks (Goldsmith, 1994). As noted in the National Park Service 1997 Strategic Plan, the low visibility of racial and ethnic minorities in national parks is an important societal and cultural issue. As parks have been historically used by the white middle class segment of society, many parks do not offer experiences meaningful to visitors from varied racial and ethnic backgrounds nor have they made their park values relevant to their shifting population demographic (U.S. Department of the Interior, 1997). In 1999, the National Park Service implemented a five-year plan developed to increase diversity within its workforce, modify its interpretive programs and materials, educate its employees, and incorporate diversity into its daily operations (Rodriguez & Roberts, 2002).



Source: U.S. Census, 2000

Figure 1.1. Shift in racial and ethnic composition of U.S. (2000-2050)

Solop, Hagen, and Ostergen (2003) reported on current patterns of visitation to national parks by ethnic and racial minorities. Their report attempted to determine why some ethnic and racial groups visit parks less frequently than White, non-Hispanic Americans. Based on those surveyed, 32 percent of respondents had visited a National Park within the prior two years. Of these, 36 percent were white, non-Hispanic, 33 percent were American Indian, 29 percent were Asian, and 27 percent were Hispanic. The visitation rate for Blacks was only 13 percent. Hispanic and Black respondents were less likely to visit parks due to lack of knowledge about parks and overall costs associated with park visits. Further, the study examined perceived constraints (i.e., issues of safety, poor service from park staff, and fees) and the likelihood of visiting national parks.

As the U.S. population diversifies by race and ethnicity, the population of the U.S. is also aging. By 2030, over 70 million Americans will be age 65 and older (Figure 1.2). In 2005, one in every eight, or 12.4 percent, of the population was an older American. Of these, 18.5% of every person over 65 was a racial or ethnic minority group member (*A statistical profile of older Americans aged 65+, 2005*). As the population ages, the National Park Service must consider issues of accessibility and providing opportunities for a newly retired and more physically active generation of baby boomers with more leisure time. Currently, the National Park Service has a proud history of welcoming senior groups into parks. Visitors 62 years of age and older can purchase Senior Passes, which removes entrance fees to most national parks.

In terms of gender, women continue to outlive men (U.S. Census, 2000). The Administration on Aging (*A statistical profile of older Americans aged 65+, 2005*) reported that

in 2005 older women outnumbered older men at 21.4 million older women to 15.4 million older men. This suggests that in years to come park managers will have to find ways to better serve an older female population.

Shifts in the nation's sociodemographic makeup also puts the National Park Service in the position of having to consider issues related to equity and environmental justice (Floyd & Johnson, 2002). Such issues will center around creating policies and management actions whose consequences are not negative and have no disproportionate impact on communities of color, low income, and other marginalized groups. In other words, in considering the positives and the negatives of resource allocation and other policies, the National Park Service must recognize the perspectives of diverse groups (Floyd & Johnson, 2002).

In addition to providing inclusive environments for a dynamically diversifying American population, the National Park Service must face another challenging issue—overall decline in national park visitation. The number of people visiting national parks steadily declined since 1988 (Pegram & Zaradic, 2006). In 2006, the National Park Service reported 272.6 million recreation visits, 900,000 fewer visits recorded in 2005 (American Trails, 2007). According to the NPS Public Use Statistics Office, this continues the downward trend experienced after 1999 when visitorship peaked at 287.1 million visitors. While visitation to some park areas remain somewhat consistent and even increased in some cases (i.e., Zion National Park, Grand Canyon National Park, Santa Monica Mountains National Recreation Area), overall visitation continues

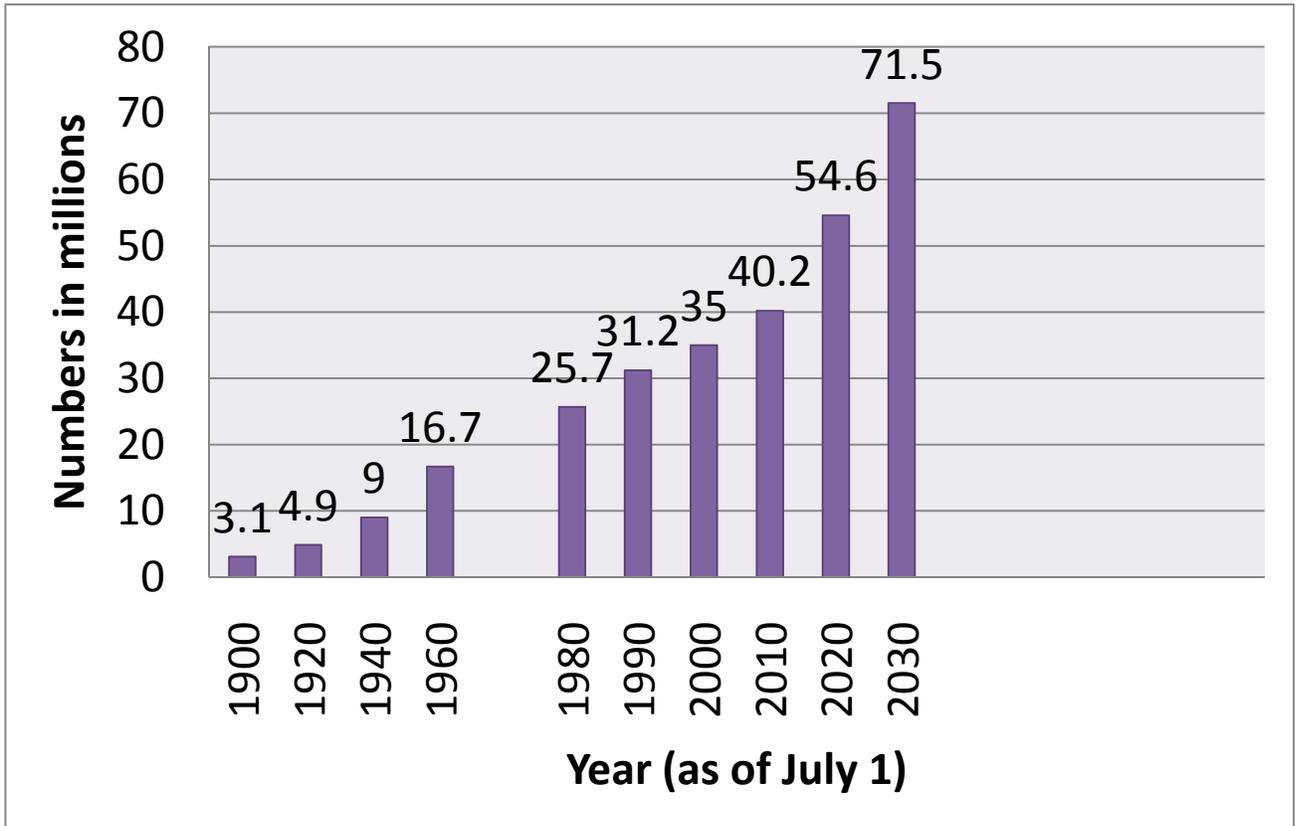


Figure 1.2 Numbers of Persons 65+ (1900-2030); (A statistical profile of older Americans aged 65+, 2005)

to experience decline (American Trails, 2007). American Recreation Coalition President Derrick Crandall suggests the issue, however, is not with declining numbers of visitors, but in the potential of the national park system to provide more Americans with greater opportunities and more benefits while still protecting resources for future enjoyment (American Trails, 2007).

Decreases in visitation are not unique to national parks. Visitation to other federal lands has been generally stagnant, if not in decline. Visitation to U.S. Bureau of Land Management (BLM) lands dropped from 58.9 million in 1999 to 54 million in 2004 (Repanshek, 2006). Forest Service lands show a similar trend. The question then becomes “how do we solve this?” Why isn’t the public visiting federally managed lands, most specifically, national parks? In the past, researchers could only speculate. With more recent data made available from the Park Service’s comprehensive national survey, the Park Service now has a wealth of data to mine to address such questions (Solop et al., 2001a). The challenge facing researchers is to provide more in-depth analysis of existing data to better understand social factors influencing visitation to national parks (Solop et al., 2001a).

Study Objectives

The purpose of this study is to examine the effects of race and ethnicity, gender, age, and socioeconomic status on visits to national parks. This research is important because it can provide an understanding of the different sociodemographic contextual factors likely to influence national parks in the coming years. The need for this study is threefold. First, it sought to obtain more information on social factors influencing park visitation, particularly race, ethnicity, age, gender, and socioeconomic status. Second, it addressed ways in which the NPS can create more inclusive environments in light of demographic shifts and the sociodemographic contextual factors associated with these shifts. Third, it probed issues related to the downward trend in national park visitation. Two specific questions addressed by this study were:

1. What is the effect of race and ethnicity, gender, age, and socioeconomic status on national park visitation?
2. What are the combined effects of these same correlates?

Hypotheses

The study tested the following hypotheses:

H1: Race and ethnicity, gender, age, and socioeconomic status will have a negative relationship with national park visitation.

H2: Consistent with the MHS, individuals with low socioeconomic status (SES), members of a minority race/ethnic group, older adults, and females will occupy a lower

rank in national visitation than individuals with higher SES, members of majority race/ethnic groups, younger adults, and males.

Organization of the Thesis

This thesis is organized into five chapters. The first chapter provides the rationale for this study. It discusses future issues for the National Park Service in light of shifting population demographics and declining visitation rates. Also contained in the first chapter is the study objective. Chapter Two is a review of the relevant literature relating to sociodemographic correlates of recreation participation as well as the multiple hierarchy stratification perspective. Study methods are described in Chapter Three, including data, sampling, and measurement. Chapter Four consists of a descriptive summary of the sample, a review of data analyses procedures conducted to address the testable hypotheses, and relevant statistical findings. Finally, Chapter Five provides a discussion of findings, methodological considerations, suggestions for future research and the practical application of the results.

Chapter 2

Literature Review

This chapter reviews previous national and statewide studies, local urban park studies, and forest-based studies regarding socio-demographic variables that influence outdoor recreation participation and park use. The first section presents an overview of the individual correlates of race and ethnicity, gender, age, and socioeconomic status on outdoor recreation participation. These variables represent major sources of stratification in the U.S. The next section discusses the multiple hierarchy stratification perspective as a conceptual framework for understanding the combined effects of multiple disadvantaged statuses and outdoor recreation participation. The final section presents the research questions and hypotheses for this study.

Individual Social Correlates of Recreation Participation

As early as the 1930s, researchers began to examine the social characteristics of leisure participants. By the 1960s, the number of studies related to social characteristics increased significantly as more leisure opportunities became available (Manning, 1999). Early studies of social variables examined socioeconomic factors (i.e., income, education, and occupation) and later race and gender as correlates of outdoor recreation participation (e.g., Burdge, 1969; Hartmann & Cordell, 1989; Lindsay & Ogle, 1972; Washburne, 1978). To further understanding of national park visitation, it is important to examine the factors that may influence leisure and outdoor recreation participation.

Race, Ethnicity and Recreation Participation

Interest in the effect of race and ethnicity on outdoor recreation is longstanding. Two of the Outdoor Recreation Resources Review Commission (ORRRC) reports, for example, cited significant racial differences in outdoor recreation participation (Hauser, 1962; Mueller & Gurin, 1962). Interest in the issue expanded during the 1960s and 1970s as a result of the civil rights movement (Floyd, 1998). Racial unrest during this period was attributed in part to inequitable distribution of resources, including recreation opportunities (Manning, 1999; Washburne, 1978). Research on racial and ethnic minority recreation participation has been viewed from four theoretical perspectives: marginality, ethnicity, assimilation, and discrimination. Table 2.1 provides a summary of these perspectives.

A report by Mueller and Gurin (1962) for the ORRRC found that, in general, fewer Blacks engaged in outdoor recreation activities when compared to their White counterparts. This infrequent participation was attributed to socioeconomic status. However, when controlling for socioeconomic status, race continued to be a statistically significant factor contributing to differences in levels of participation between Blacks and Whites. These findings led to the development of Washburne's (1978) marginality and ethnicity hypotheses.

The marginality perspective posited under-participation as a result of inhibitive factors, such as limited access to socioeconomic resources, which, in turn, resulted from historical patterns of discrimination (Washburne, 1978). For example, low levels of outdoor recreation participation are viewed as a function of low income (Washburne, 1978). By implication, differences in recreation participation and behavior are more likely to stem from intra-race

variation in socioeconomic status (Floyd, Nicholas, Lee, Lee, & Scott, 2006). Studies involving tests of the marginality hypothesis have involved comparing rates of participation in wildland recreation between Whites and Blacks while controlling for socioeconomic status (i.e., marginality) factors (Scott & Munson, 1994; Washburne, 1978; West, 1989).

Conversely, the ethnicity perspective, also known as the subcultural hypothesis, viewed recreation patterns as a function of values, orientations, norms and socialization processes inherent within subcultures (Washburne, 1978). It has been argued that the same values that attract Whites to parks engender indifference toward parks among people of color (Floyd, 1999). For example, in his 1973 essay, Meeker suggested that while Whites view parks as places for refuge and escape, Blacks and Native Americans display little enthusiasm for parks and other natural areas (Meeker, 1991).

Subcultural influences have also been interpreted as a process through which ethnic identity is preserved and maintained. For example, Floyd and Gramann (1993) argued that leisure might play a critical role in maintaining culture identity within a multicultural society. Further, Kelly (1987) suggested that because of leisure decisions are made in relative freedom, it was likely that ethnic differences would be reflected in the choices of leisure activities and settings.

Preferences for various park characteristics, frequency of visitation to urban parks, and perceived benefits of park use can be associated with race/ethnicity and gender differences (Ho, Sasidharan, Elmendorf, Willis, Graefe, & Godbey, 2005). In this study, participants were recruited from minority groups in two metropolitan cities and compared with samples of white

residents in the same cities. Significant variations existed between ethnicities in park characteristics, frequency of visitation and perceived benefits of park use. For example, Blacks were more likely to emphasize the importance of ethnic representation within the park. The authors note this may be attributed to historical discrimination experienced by Blacks in the U.S. (Ho et al., 2005). Hispanic, Korean, and Chinese respondents were more likely to visit parks in groups of three or more. These patterns can be seen as a representation of culture and suggest correspondence with Washburne's (1978) ethnicity or subcultural hypothesis (Ho et al., 2005).

Racial and ethnic variation has also been viewed from the acculturation and structural assimilation perspectives. These studies have involved Hispanic and Asian populations. These perspectives attempt to examine the degree to which ethnic minority groups "blend" with dominant or majority population (McGuire, Boyd, & Tedrick, 1999). According to Allison and Geiger (1993), leisure may enhance assimilation, or it may take forms associated with native customs and thus help to perpetuate a strong sense of ethnic identity. Carr and Williams (1993) used this perspective to discuss and understand outdoor recreation behavior among Hispanics using national forests. They concluded that the loss of traditional cultural values and perspectives and the acceptance of new values and perceptions could make a difference in activity patterns and reasons for participation. It is important, therefore, to understand the structural contexts within which individuals exist. Similarly, Floyd and Gramann (1993) suggested that assimilation be considered in analyzing recreation patterns. They found acculturation patterns were more evident in choices of outdoor recreation activities. They also reported that assimilation

(measured as social interaction with individuals outside of the ethnic group) was a better predictor of site choices.

Discrimination is also cited as a barrier to racial and ethnic minority outdoor recreation participation (Floyd, 1999; Floyd, Gramann, & Saenz, 1993; Meeker, 1991, West, 1989). Gramann (1996) suggested that minorities might exhibit avoidance or displacement behaviors and seek alternative sites for recreation as a result of discrimination. Meeker (1991) suggested that as a consequence of slavery, Blacks have learned to associate the land with pain, misery, and humiliation (Cleaver, 1969; Meeker, 1991). Blacks' image of the land is believed to be tied to a history of hatred and servitude not the source of liberation and fulfillment that white settlers found (Cleaver, 1969).

Martin (2004) suggested that images within dominant society affect Black perception of the environment and outdoor recreation creating a "racialized outdoor leisure identity" (pg. 514). He suggests that media images contribute to stereotyped leisure identities that result in fewer Blacks participating in outdoor recreation. The "Great Outdoors" is seen primarily as white space. The study posited that the racialized leisure identity could influence not only adults, but also the values and attitudes passed on to children, leading to apartheid in the Great Outdoors.

In 1993, Floyd et al. tested a perceived discrimination hypothesis among Mexican Americans and found little support for this explanation. However, West (1989) showed that although Black Detroit residents used Detroit city parks more than Whites, they were infrequent users of surrounding regional parks just outside of Detroit. Black minority park users cited prejudice and discrimination as a reason for not using regional parks.

In sum, one can expect that race and ethnicity minorities will be less likely to visit national parks than White Americans. Specifically, past literature suggests that minority status will exert a negative effect on national park visitation. This may occur because many racial and ethnic minorities in the United States experience higher levels of perceived discrimination and often occupy lower socioeconomic statuses. In addition to this, cultural and subcultural norms and values can also exert an influence on recreation participation and preferences of racial and ethnic minority group members.

Table 2.1 Summary of theoretical perspectives on minority use of parks (Floyd, 1998)

Theoretical perspectives	Key assumptions	Strengths	Weaknesses
Marginality hypothesis	Lack of socioeconomic resources and historical discrimination limit park visitation	Addresses role of historical discrimination Direct measures of marginality factors are suggested	Does not address contemporary discrimination Not clear how to apply to affluent individuals and groups Implications for explaining on-site use not clear
Ethnicity or subcultural hypothesis	Visitation patterns reflect differences in values, norms, and socialization patterns (independent of socioeconomic factors)	Directs attention to cultural determinants of outdoor recreation preferences	Specific cultural determinants often not identified or measured Neglects intra-ethnic diversity
Assimilation theory	Park use reflects an acquisition of the dominant culture characteristics	Well-established in the literature Accounts for intra-ethnic diversity Suggests measurable indicators of cultural characteristics	Associated with ideological assumptions Implications for non-immigrant populations not understood
Discrimination hypothesis	Park visitation is affected by perceived, actual, or intentional discrimination	Directs attention to contemporary forms of discrimination	Little is known of the range, types, and responses to contemporary discrimination

Gender and Recreation Participation

Historically, activities relating to and associated with the natural environment have been defined by a White, largely middle class patriarchal society (Roberts & Henderson, 1997). Strong parallels exist between research on gender issues and race and ethnicity issues. These parallels may be linked to the traditional under-representation of such groups. Not unlike race and ethnicity, differences in recreation participation between men and women were observed in early ORRRC reports. Early studies suggested that women participate in fewer recreation activities than men, are less likely to participate in gender “inappropriate” activities (i.e., hunting, fish, and wilderness-related activities), but equally as likely to participate in other outdoor recreation activities (Manning, 1999).

Much of the research on women’s leisure has dealt with constraints as a way of understanding the impact of gender on leisure behavior. This scholarship on gender and leisure participation suggests the constraints that women encounter may provide explanation for the “gender gap” in outdoor recreation and park visitation in general. Henderson and Bialeschki (1991) found that women view work and family or both as a higher priority than their own leisure. This lack of a sense of entitlement is pervasive and may limit women’s leisure opportunities primarily through a feeling of undeserving leisure (Henderson & Bialeschki, 1991). Some scholars reason that this lack of entitlement may become manifest in certain beliefs of ‘gender appropriateness’ related to leisure activities (Floyd et al., 2006; Lee, Scott, & Floyd, 2001; Manning, 1999; Wearing, 1999).

Past studies also show that outdoor recreation participation for women can be inhibited by the threat of violence and safety concerns (Fredrick & Shaw, 1995; Shaw, 1999; Whyte & Shaw, 1994). In 2001, Johnson, Cordell and Bowker reported that women who participated in outdoor recreation activities were more likely than men to be constrained by personal safety as well as by inadequate facilities and outdoor pests. Bialeschki and Hicks (1998) observed that the threat of violence to women is commonplace and a fact of life to which many females are socialized at an early age.

Research also indicates that race, age, cultural background, and other characteristics both motivate and constrain women's experiences (Roberts & Henderson, 1997). A qualitative study by Roberts and Henderson (1997) focused on the experiences of minority women in the outdoors and the associated meanings given to these experiences. Results from their study suggested that perceived barriers to outdoor recreation among women of color vary. For some, ethnicity was a major constraining factor. Other perceived barriers included cultural traditions, limited opportunities, and cultural perceptions of who belonged in the outdoors. Though the study did not address racial differences, it provided a framework for further research about the outdoor experience of women of color.

Similarly, Virden and Walker (1999) examined race and gender as it related to meanings and preferences associated with the natural environment among college students. Using a sociocultural approach to understanding person-natural environment interactions, the study examined how meaning can both structure and be structured by the environment. While activity setting may influence a recreation experience and its associated meaning, meanings can also

affect activity-setting preference. Meanings and preferences were measured using affective and environmental preference scales. Results suggested that ethnicity and gender influence meanings attached to the natural environment as well as environmental setting preference for outdoor recreation. For example, White study participants considered the forest environment to be more pleasing and safer than Black study participants, who viewed this environment as annoying and threatening. This is consistent with Meeker's (1991) and Martin's (2004) views on the differing perceptions of the outdoors between Blacks and Whites. Female study participants also felt the forest environment to be more threatening than did their male counterparts. Further, as it related to environmental setting preference, White and Hispanic respondents preferred less presence from park managers and law enforcement than did Blacks and women. These findings supported differences in meanings and preferences across ethnicity/race and gender.

Findings from these studies suggest that gender can exert a negative effect on national park visitation. Most studies to date have proposed that women are less likely to participate in outdoor recreation than men for a variety of reasons (i.e., lack of sense of entitlement, fear of safety, threat of violence) that are pervasive not only at the site of outdoor recreation, but also within the culture (Bialeschki, 2005; Henderson & Bialeschki, 1991; Lee et al., 2001; Shaw, 1999).

Aging and Recreation Participation

While limited research has examined the effects of age on national park visitation, considerable work has been done on the effects of aging on leisure behavior. Generally, results

indicate that leisure participation is directly and negatively correlated to aging. Gordon, Gaitz, and Scott (1976), for example, found that the percentage of individuals reporting active leisure lifestyles decreased from about 80% in the initial phase of adulthood to about 20% in the last stage of the lifespan. Kelly (1980) also reported a negative correlation between age and outdoor recreation participation. His study indicated a decrease with age for recreation and physically active categories, but very little difference for social, home-based, and family-oriented activities (Kelly, 1980). In one study of older national park visitors, McGuire, O'Leary and Dottavio (1989) found that older visitors to national parks placed more emphasis on maintenance, signage, information, and staff and less on availability of opportunities for active recreation.

Rosow (1975) conceptualized aging as a process of transitioning from one social position to another. He reasoned that later life implied a social position that was qualitatively different from earlier age periods. These positions have defining roles with distinct patterns of activity and privilege. The process of 'socialization' into the roles and the associated positions may explain the relationship between age and recreation participation, particularly in older populations. In short, transition to new life roles may lead to lower participation in outdoor activities.

Over the years, researchers have employed the life cycle perspective to examine the effects of aging on leisure behavior. The life cycle perspective, adapted from Levinson's model (1978), theorizes that developmental changes, associated with phases of one's life, exert influence on not only the kinds of activities people pursue, but the meanings they attribute to these activities (Lee et al., 2001). Similarly, Iso-Ahola (1980) proposes that leisure is a dialectical process. He asserts that individuals seek stability and change, structure and variety,

familiarly and novelty in their intra- and interpersonal encounters throughout the life cycle. Iso-Ahola, Jackson, and Dunn (1994) found that the numbers of individuals demanding leisure outside the home decreased as life stages progressed.

Additionally, studies have shown that older adults are disproportionately non-users of public parks (Scott & Jackson, 1996; Scott & Munson, 1994). For example, Scott and Jackson (1996) examined the factors that may constrain people's use of public parks. Using data from a survey of non-users in Greater Cleveland, Ohio, they found that older women were more likely to be constrained by safety issues, lack of companionship, and poor health. Similarly, Scott and Munson (1994) also found that older adults were more likely to be constrained by fear of crime, lack of companionship, and poorer health.

Studies have also highlighted the adverse influence of ageism on the activities of older individuals (Gross, Gross, & Seldman, 1978; Wearing, 1999). Lawton (1985) argued that the perceptions of older people, influenced by the effects of ageism, might restrict the leisure involvement of older adults to more passive activities.

The implications of this research are that older adults may be less likely to participate in outdoor recreation activities and visit parks in part due to developmental (i.e., role transition) factors as well as to the existence of age-related norms pervading society.

Socioeconomic Status and Recreation Participation

Prior to the 1980s, researchers gave significant attention to the effects of socioeconomic variables on leisure participation. Educational attainment, level of income, and occupational

status have been viewed as important influences on leisure behavior (Lee et al., 2001). For example, White (1975) found that age, education, and income were the main predictors of participation in outdoor recreation activities (i.e., camping, hunting, hiking, and visiting parks). Scott and Munson (1994) reported income to be the single best predictor of perceived constraints to urban park visitation. This was true even when controlling for gender, age, race, and education. Similarly, Solop et al. (2001a) found education and income most strongly affect national park visitation.

According to Meeker (1991), the poor and minority groups are underrepresented among park goers as national parks have become “playgrounds” for the middle- and upper-class. Bultena and Field (1978) examined this idea of “elitism” in national parks. They examined relationships among income, education, occupation, socioeconomic status, and national park visitation in the Pacific Coastal region of the National Park System. Their results suggested that a social class bias indeed existed among national park clientele. Individuals with higher income levels, high education attainment, and occupational prestige tended to visit national parks more frequently than their counterparts. However, income was of lesser importance than education and occupation in determining frequency of national park visitation.

Research findings on the relationship between income and outdoor recreation participation can be explained in part by the opportunity theory. This theory suggests the rate of participation in outdoor recreation would be commensurate with cost and availability of outdoor recreation resources to the public (Lindsay & Ogle, 1972). Lee et al. (2001) suggested that low income would clearly filter out costly recreation participation. Sessoms (1993) argued those with

lower incomes have less recreation opportunities due to the rising costs of providing basic leisure services. Further, Howard and Crompton (1980) suggested that low income limits the “expression of tastes” impacting expression of leisure preferences.

Several researchers have maintained that education is strongly associated with leisure participation (Bultena & Field, 1978, Bultena & Field, 1980; Kelly, 1983; Lucas, 1990; White, 1975). For example, Lucas (1990) reported that educational level is by far the most distinguishing characteristic of wilderness recreationists. Similarly, Kelly (1983) also reported education as the most significant predictor of recreationists’ use of outdoor recreation areas. Kelly (1980, 1996) suggested that education generally is a better predictor of leisure participation than income or occupation. He noted that while income and occupation influence the kinds of leisure opportunities to which individuals avail themselves, education relates more to leisure socialization and the inculcation of leisure skills and interests (Lee et al., 2001). These studies suggest that education contributes to the development of not only interest in outdoor recreation areas, but also contribute to continuing involvement in outdoor recreation activities (Floyd et al., 2006; Lee et al., 2001).

In view of past research, individuals in lower socioeconomic status positions will be less likely to visit national parks than those with higher socioeconomic status positions due, in part, to a lack of financial resources, lack of accessibility, and lack of skills and interest resulting from limited educational attainment. In particular, education appears to be the strongest predictor (compared to income and occupation) of participation in outdoor recreation activity and national park visitation.

Multiple Hierarchy Stratification Perspective

Early literature on social correlates of outdoor recreation participation centered on the single effects of race and ethnicity, age, gender, and socioeconomic status. Studies have shown that members of racial and ethnic minority groups, individuals from low socioeconomic backgrounds, older adults, and females tend to be disenfranchised in terms of outdoor recreation involvement (Floyd, 1999; Lucas, 1990; Scott & Jackson, 1996; Scott & Munson, 1994). Until the early 1990s, little attention was paid to the combined effects of the multiple status positions individuals may occupy.

Origins of the Multiple Hierarchy Stratification Perspective

Research on the combined interaction effects of race/ethnicity, gender, and age on outdoor recreation behavior has drawn largely from the multiple hierarchy stratification (MHS) perspective. The perspective originated in order to provide insight into how multiple disadvantaged statuses compromised access to housing, healthcare, life satisfaction, and recreation resources (Markides, Liang, & Jackson, 1990). MHS is based on the idea that every person occupies multiple status positions within society (Shores, Scott, & Floyd, 2007). Status positions are relative to others and ranked as such (Lovagalia, 2000).

Theoretical development leading to the MHS began with attention to two status variables: race/ethnicity and age, leading to the double jeopardy hypothesis. The double jeopardy hypothesis refers to additive negative effects of multiple hazards (i.e., minority racial and ethnicity group status and age) on frequently cited indicators of quality of life, such as income,

health, housing, or life satisfaction. For example, Dowd and Bengston (1978) found double jeopardy to be an accurate characterization of Black and Mexican older populations on the variables of income and health. These groups were more likely to experience considerably lower income and report poorer health than the White older population (Dowd & Bengston, 1978). The double jeopardy hypothesis has been applied to studies of race and gender as well as gender and age. A study by Ortega and Myles (1987) used the double jeopardy hypothesis to assess fear of crime. Previous research had shown that Blacks, women, and older populations were most likely to be afraid of crime. This study used the double jeopardy hypothesis to assess whether the effects of gender, race, and age on fear of crime would be interactive. For women, results were consistent with the hypothesis. Older black females showed high levels of fear. Further, the study found that fear increased faster with age for Blacks than for Whites. Later studies employed the quadruple hypothesis focusing on age, gender, race/ethnicity and socioeconomic status (Riddick & Stewart, 1994).

The MSH is an extension of the double jeopardy hypothesis. It was developed to encompass minority status, age, gender, and income as indicators of disadvantaged status positions (Riddick & Stewart, 1994). Multiple hierarchy stratification assumes that the cumulative effects of multiple sources of inequality on quality of life indicators are more profound than the effect of a single source. A stratification continuum exists, according to this perspective, in which individuals with racial and ethnic minority status, low socioeconomic status (SES), female gender, and old age are on the lower end and individuals with majority

racial and ethnic status, high SES, male gender, and young age on the high end (Floyd et al., 2006).

The multiple stratification hierarchy perspective is thought to better explain the socioeconomic differences in outdoor recreation participation by looking at how such variables converge and contribute to these differences. This perspective can also be used to provide a better explanation of how inequality is reflected in national park visitation just as it does in other sectors of society such as education, housing, and other issues pertaining to an individual's quality of life.

Recent Research Applying the Multiple Stratification Hierarchy

In one of the first leisure studies to use the multiple stratification hierarchy perspective, Riddick and Stewart (1994) examined life satisfaction and importance of leisure among older women retirees. This study found partial support for the MHS perspective. Black retirees reported lower levels of perceived health than Whites. Riddick and Stewart attributed this to racism and sexism experienced by Black women. However, income was not a significant predictor of perceived health. Patterns related to MHS were not observed for leisure activity participation.

Arnold and Shinenew (1998) studied the role of gender, race, and income on constraints to park use. A stratified sample of parks in the Chicago metropolitan area was used to depict community areas representing Black, White, and racially mixed population areas. These areas were further stratified to represent upper and lower income groups. On-site interviews were

conducted with 582 park users. Respondents were asked to provide information on 19 constraints (i.e., lack of transportation, fear of racial conflict, overcrowdeness, and lack of time) using a five point Likert-type scale ranging from “Not at all” to “A lot.” They reported that income, race, and gender each were significantly associated with constraints to park use. However, their results were contrary to MHS. Income, race, and gender were not significantly associated with constraints to park use, such that lower income Black females experienced higher levels of constraints than higher income White males. Arnold and Shinenew argued that privileged members of society (i.e., Whites, males, high-income earners) have greater expectations for their leisure experiences compared to those less privileged. As a result, these individuals may feel more constrained than those who have not experienced better leisure facilities and opportunities. Arnold and Shinenew suggested research be done to examine not only race, gender and income, but also education and age as factors that influence constraints to park use.

In a series of studies, Floyd, Scott, and colleagues applied the multiple hierarchy perspective to the study of park visits (Lee et al., 2001), recreational fishing (Floyd et al., 2006), and constraints (Shores, et al. 2007). The data for these studies were obtained from a statewide survey conducted in 1998 of 3000 Texas residents. In this survey, respondents were asked to provide information about their use of state parks, outdoor recreation participation, constraints to outdoor recreation, and demographic background. Since the present study is an extension of these investigations, they are reviewed in detail.

Lee et al. (2001) tested the multiple hierarchy perspective on outdoor recreation participation. Using three dependent variables, respondents were asked about recreation

participation away from home, close to home and their use of Texas state parks. Their results were consistent with previous studies that found people from lower socioeconomic backgrounds, members of a minority group, older adults and females have less outdoor recreation involvement. When examining the combined effects using predicted probabilities from logistic regression, the study showed that young Anglo males with college degrees and incomes over \$20,000 a year participate in outdoor recreation away from home almost five times more than elderly minority females with degrees, earning less than \$20,000. Additionally, the probability of young Anglo males with college degrees and incomes over \$20,000 in participation in recreation close to home was three and a half times more than older minority females from lower education and income levels. Furthermore, older minority females without college degrees with incomes less than \$20,000 were three times less likely to visit state parks than were younger Anglo males with college degrees and higher incomes. These results supported the idea that socioeconomic status, race, age, and gender exert a cumulative effect on outdoor recreation participation.

Floyd et al. (2006) explored the combined effects of age, race and ethnicity, gender and socioeconomic status on recreational fishing. Items measuring fishing participation were comprised of questions relating to whether respondents had ever been fishing and if so, whether they had done so in the past five years, and the last 12 months. In examining the individual effects, they reported that race and ethnicity, gender, and age were significantly related to fishing participation over the twelve-month period prior to the survey. Males were twice as likely to have fished in the past twelve months as females. Whites were 1.7 times more likely to have fished than Blacks. Persons younger than 65 were 2.2 percent more likely to have fished during

the past twelve months when compared to individuals over 65. An analysis of combined effects revealed, when fishing in the past twelve months was examined, the highest probability of fishing was associated with young White males with college degrees and annual incomes of greater than \$20,000. Elderly women of color with lower socioeconomic status were two times less likely than young white males to have ever fished. A similar result was obtained by Lee et al. (2001) in the analysis of recreation participation and state park use. However, a clear hierarchical pattern was only observed for those “never having fished.” Floyd et al. (2006) suggest the effects of multiple hierarchy stratification may be less pronounced in fishing due to its widespread appeal, making it a less potent status marker.

The multiple hierarchy perspective has also been used to examine leisure constraints. Similar to Arnold and Shinew (1998), Shores et al. (2007) investigated how multiple combinations of statuses affect constraints to outdoor recreation. Five independent variables were included for analysis (i.e., race/ethnicity, gender, age, income, and education) to represent the four variables needed to test the multiple hierarchy perspective (race/ethnicity, gender, age, and SES). A subset of constraints from the original survey of Texas residents was analyzed as dependent variables. Some of these constraints included: costs, fear, lack of time, and poor health. Constraints were then rated as either “important” or “not important.” Findings supported the idea that the probability of experiencing constrained leisure was multiplied when respondents had more than one status. College-educated, White males, under 65, and earning more than \$20,000 each year were less likely to experience constrained leisure. Conversely, older Black and Hispanic women with low incomes and a lower level of education were more likely to

experience constrained leisure. The results indicated that for most constraints, a greater number of disadvantageous statuses were related to higher probabilities of experiencing outdoor recreation constraints. For example, older Black women with low incomes and lower levels of education attainment were four times more likely to be constrained by a fear of crime or lack of a partner with whom to participate than younger, college educated white males with high incomes.

In summary, this review of literature summarized studies on the individual effects of race and ethnicity, gender, age, and socioeconomic status on recreation participation. It further introduced multiple hierarchy stratification as a theoretical perspective and tool for examining the combined effects of the above correlates on recreation participation. While few studies have employed the MHS to understand leisure behavior generally and outdoor recreation particularly, its focus on multiple status variables makes it appealing for the current study.

Rationale for the Study

As discussed above, membership in multiple status positions has a substantial influence on leisure preference, constraints, and behavior. Such studies provide an examination of the aggregate effects of race and ethnicity, gender, age, and socioeconomic status on recreation participation. The present study seeks to examine single and combined effects of race and ethnicity, gender, age, and socioeconomic status on national park visitation. Earlier studies (Dowd & Bengston, 1978; Ortega & Myles, 1987) applied the double jeopardy hypothesis to examine the cumulative effects of multiple sources of inequality on quality of life indicators. In recreation and leisure studies, others (Arnold & Shinew, 1998; Floyd et al., 2006; Lee et al.,

2001; Shores et al., 2007) have used the multiple hierarchy perspective to inform studies on the use of state and local parks and constraints. This present study applied the multiple hierarchy perspective to a study of national park visitation.

Research questions and hypotheses

Specific questions addressed by this study were:

1. What is the effect of race and ethnicity, gender, age, and socioeconomic status on national park visitation?
2. What are the combined effects of race and ethnicity, gender, age, and socioeconomic status on national park visitation?

The study tested the following hypotheses:

H1: Race and ethnicity, gender, age, and socioeconomic status will have a negative relationship with national park visitation.

H2: Consistent with the MHS, individuals with low socioeconomic status (SES), members of a minority race/ethnic group, older adults, and females will occupy a lower rank in national park visitation than individuals with higher SES, members of majority race/ethnic groups, younger adults, and males.

This study seeks to examine the effects of race and ethnicity, gender, age, and socioeconomic status on national park visitation. In doing so, this study provides not only a gauge to the proportion of people that visit national park system units, but also describes

characteristics of visitors and non-visitors. As Solop et al. (2001a) suggest, information generated in research of national park visitors and non-visitors will help park managers make more informed decisions about the visitor experience and provide opportunities for diverse clientele. In the years to come, the national park service will have to face issues surrounding diversifying populations and declining park visitation. This research provides an examination of some of the sociodemographic correlates affecting these areas. Providing opportunities for positive, relevant recreation experiences in natural areas like the national park can become less challenging with an understanding of contextual factors influencing their use. In addition to these important practical concerns, this study also assesses the utility of MHS perspective to understand trends in national park visitation.

Chapter 3

Methods

The purpose of this study was to examine the single and combined effects of race and ethnicity, gender, age, and socioeconomic status on national park visitation. This chapter describes the methods used to test the research hypotheses. The data collection and sampling design are presented. The chapter also describes measurement of dependent and independent variables and data analysis procedures.

Data

Data from the study were obtained from The National Park Service Comprehensive Study of the American Public. In 2000, the National Park Service commissioned the Social Research Laboratory at Northern Arizona University to design and conduct the agency's first comprehensive survey of the American public. Data were collected from a random sample of respondents to provide a national perspective of people's relationships with the National Park Service and National Park System units. The survey collected demographic information on visitors and non-visitors, as well as differences in attitudes, motivation, and interests these populations have toward the National Park Service and National Park System units (Solop et al., 2001b).

The use of secondary data presents advantages and disadvantages. Advantages of using secondary data include economy of costs and time (Babbie, 2005). Secondary data collection is unobtrusive and allow for larger scale studies on a smaller budget. Additionally, use of

secondary data can be carried out relatively quickly and can allow coverage of a wider geographic area or temporal range (McCaston, 1998). Critical limitations of using secondary data are that the data may not always fit the specific research questions. In addition to this, problems with accuracy of measurements or unknown errors in the original study may arise (Babbie, 2005). In the present study, a large national probability sample was used. The data were advantageous because of the large sample and standardized data collection protocol. In addition, data used directly addressed the question of national park visitation. This was in line with the goal and purpose of this study to examine visitation to national parks.

Sampling

Random samples of approximately 500 people within each of the National Park Service's seven regions were surveyed between February 21 and May 21, 2000. National Park Service regions are presented in Figure 3.1. The data were combined into a national sample of 3,515 respondents (Solop et al., 2001b). Respondents were randomly selected within households using the last birthday method of respondent selection. The sample frame was constructed using standard Random Digit Dialing (RDD) procedures and was purged for nonworking telephone and business lines. For more details on the sample design, see the study technical report by Solop et al. (2001b).

Response Rates

Completion rates for the survey ranged from 73 percent to 95 percent in each of the seven National Park Service regions. These figures are quite large for a study of this scope and

magnitude. The margin of error associated with the national-level data in the study was +/- 1.7 percent at the 95 percent confidence level.

National Park Service Regional Offices



Figure 3.1 National Park Service Regions

Measures

Dependent Variables

National park visits. For the purposes of the study, visits were measured as persons who reported they had entered a National Park System unit within two years prior to being contacted for the survey and who were able to accurately identify the unit entered. National Park System unit designations include national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. For analysis, visitation was a dichotomous measure (i.e., Yes coded 1 and No coded 0).

Independent Variables

Gender. Gender was a self-report measure in the survey. For analysis, gender was a dichotomous measure (i.e., Female coded 1 and Male coded 0).

Race/Ethnicity. Race/ethnicity was a self-report measure. Race/ethnic categories were determined using US Census Bureau categorizations. The Census Bureau recognizes five racial categories: American Indian or Alaskan Native, Asian, Native Hawaiian or Pacific Islander, Black, and White. Ethnicity is categorized in two groups: of Hispanic origin and Not of Hispanic origin. Hispanics could be of any race (U.S. Census, 2000b). This study focused on White, Black, and Hispanic racial and ethnic groups. White, non-Hispanic respondents were assigned majority status and coded 0. Black, non-Hispanics were assigned minority status and coded as 1. Ethnicity (a separate measure of Hispanicity) was also coded with majority (i.e. non-Hispanic) and minority (i.e. Hispanic) status. These were coded as 0 and 1, respectively.

Age. Age was a self-report measure. For the analysis, age was recoded to be a dichotomous measure. Age categories were divided between those adults above the age of 65 and those below it. Age 65 and older was chosen as the cutoff due to the association of age and retirement. It is around this age (62+) that federal recreation areas (i.e., the National Park Service, Fish and Wildlife Service, etc.) begin to offer the Senior Pass, formerly the Golden Age Passport, which provides discounted park entrance to those with older age status. Adults below age 65 were coded 0; adults above age 65 were coded 1. This dichotomy is also consistent with previous studies applying the multiple stratification hierarchy.

Education. Education was a self-report measure. For the analysis, education was recoded as a dichotomous measure. Education levels were divided between those reporting having graduated college and those without college degrees. Categories of college graduates and non-graduates were used as a measure for education given the positive association between education and outdoor recreation participation (Bultena & Field, 1978; Lucas, 1990; White, 1975). As Lee et al. (2001) suggested, college is the place where many kinds of leisure skills are developed. Those with college degrees were coded 0; those without degrees were coded 1.

Data Analysis

Data were screened for out-of-range values, outliers, and missing values. Descriptive statistics (frequencies and percentages) are reported for all study variables. Cross-tabulations with chi-square (χ^2) were used to assess bivariate associations between national park visits and study variables. Hypothesis 1 was assessed via logistic regression. Logistic regression allows for

prediction of a discrete outcome, i.e., in this case, national park visitation or non-visitation (Tabachnick & Fidell, 2007). It emphasizes the probability of national park visitation for each independent case (i.e., race, ethnicity, gender, age, and SES). For the logistic regression analysis, majority status, younger age, males, and college educated were used as reference groups. The omnibus test of model coefficients indicated whether any of the beta coefficients were equal to zero. As with linear multivariate regression, coefficients are interpreted in the context of other predictor variables.

The Hosmer and Lemeshow χ^2 assessed the fit of the overall model. Nagelkerke's R^2 was used to assess the strength of the association between the predictor variables (i.e., race, ethnicity, gender, age, and education) and national park visitation. Odd ratios were reported to indicate if effects of independent variables on national park visits were consistent with hypothesis 1. All statistical tests used alpha set at 0.05.

Hypothesis 2 was analyzed by examining predicted probabilities based on the logistic regression equation with the study variables. No separate statistical analysis was used. Specifically, the predicted probabilities of respondents in the lowest MHS stratum (i.e., minority, female, over 65, and no college) were compared to the highest MHS stratum (i.e., majority, male, under 65, and college graduate). From a theoretical perspective, it is appropriate to use logistic regression and predicted probabilities in exploring how multiple disadvantaged statuses compromise national park visitation because it enables one to compare the probability of national park visitation among different strata within a stratification hierarchy.

Chapter 4

Results

This chapter presents the descriptive profile of respondents as well as the results of the hypotheses tests. The hypotheses were designed to test the single and combined effects of race and ethnicity, gender, age, and education on national park visitation. The first section provides a descriptive profile of the survey respondents. The next section examines the bivariate associations of national park visitation. The final section provides the results of the hypotheses tests.

Demographics

The majority (58%) of respondents ($n = 3515$) were female. As shown in Figure 4.1, respondents were predominately white (83%). Hispanic respondents represented 11% of the responses (Figure 4.2). The majority (63%) of respondents had not received a college degree (Figure 4.3), and most (72%) reported incomes of over \$20,000 annually (Figure 4.4). Table 4.1 further presents the demographic characteristics of the sample.

Respondents represent both visitors and non-visitors to national parks (Table 4.2). The original study had three categorical definitions of visitation: (1) those who had visited in the past two years and could name the unit accurately, (2) those who had not visited in their lifetime, and (3) those who had visited in a lifetime, but had not been in the last two years or couldn't name the park unit. Overall 32% of respondents reported having visited a national park within the last two years while 15% reported having never visited a national park in their lifetime. Over fifty

percent (53%) of the sample reported visiting a national park within their lifetime but not in the last two years or could not name the park unit. For the purpose of this study, visitors were defined as those who had visited a national park unit in the past two years and could accurately name that unit (32%). All other respondents were treated as non-visitors (68%). The definition provided by this study is a good measure to determine if the park areas respondents are visiting are actually national parks and helps to reduce error caused by heavy reliance on respondents' memories.

Among those classified as visitors, the majority (37%) of respondents was male (Table 4.2). This is in contrast to the total number of respondents both visitor and non-visitor in Table 4.1. Respondent 65 and older tended to be non-visitors (77%) (Table 4.2).

Respondents with less than a college degree were more likely to be non-visitors than those who had at least college degrees. For example, those individuals with less than a high school diploma (85%) were more likely to have never visited a national park than those with college degrees (56%). Respondents with post college degrees were equally (50%) as likely to be visitors or non-visitors (Table 4.2).

The highest percentage of non-visitors (82%) was in the category of respondents with household incomes of less than \$20,000 per year. Those with incomes greater than \$100,000 were equally (50%) as likely to be park visitors as they were to be non- visitors.

Further results indicate that respondents from minority racial and ethnic groups were more likely to be non-visitors than those in majority groups. Eighty-six percent of all Black

respondents were non-visitors while only 65% of White respondents were non-visitors. Results for Hispanic respondents as compared to non-Hispanic respondents were relatively close. Sixty-seven percent of all non-Hispanic respondents did not visit national parks; 73% of all Hispanic respondent also did not visit National Parks.

At a descriptive level, these results show that those individuals who were female, over 65 years of age, with lower levels of educational attainment and income, and in a minority status group were more likely to be non-visitors to national parks than their counterparts. In the next section, these patterns are examined for statistical significance in a series of bivariate analyses.

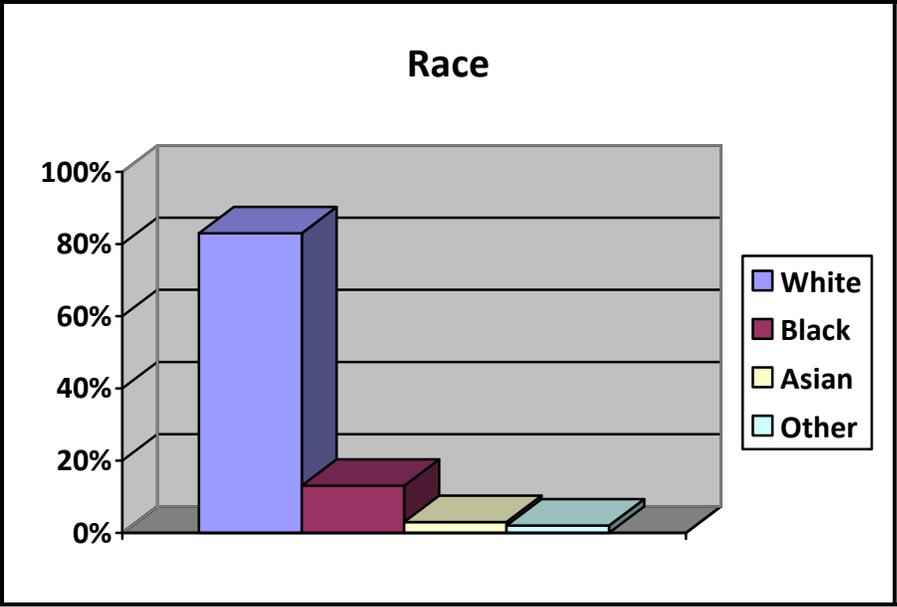


Figure 4.1 Percentage of respondents by race

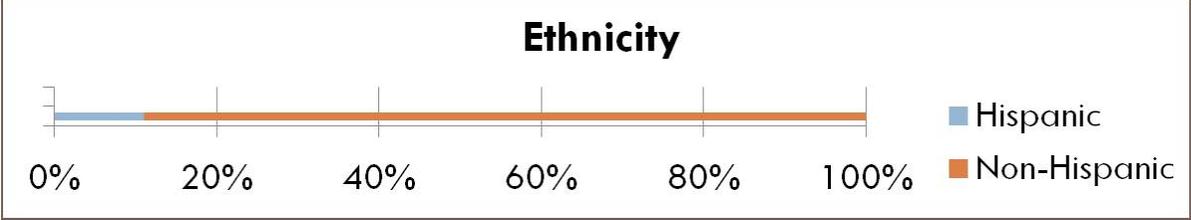


Figure 4.2 Percentage of respondents by ethnicity

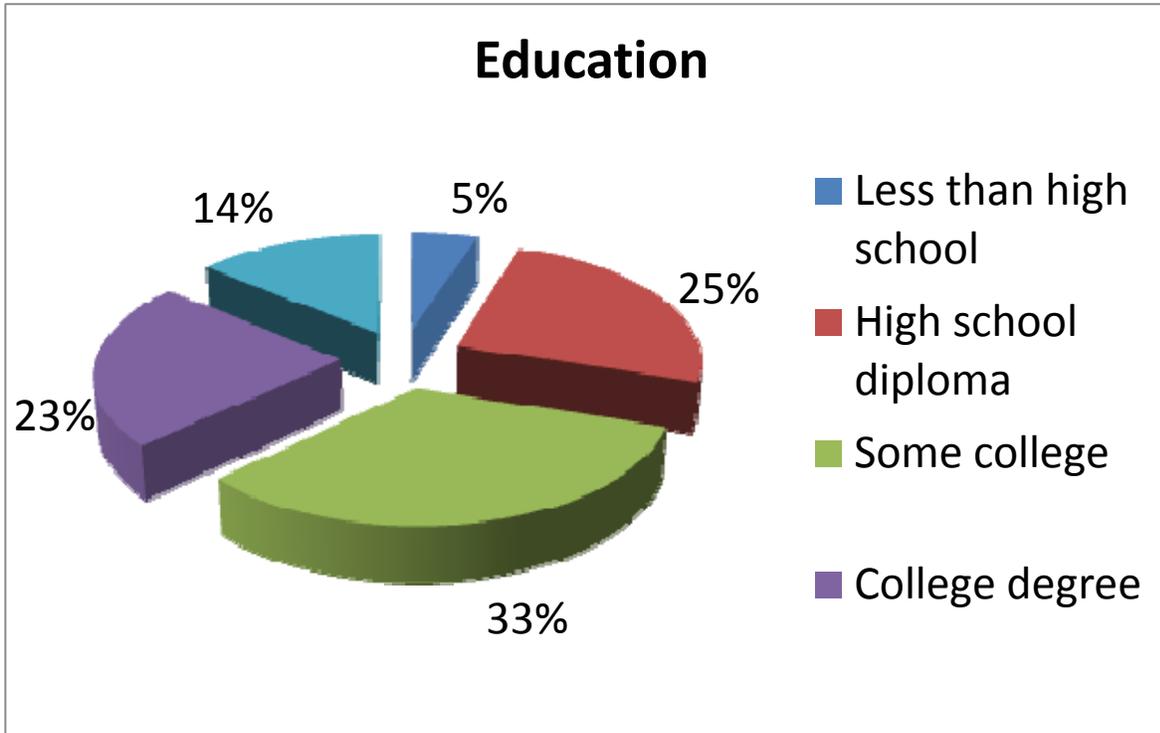


Figure 4.3 Percentage of respondents by education

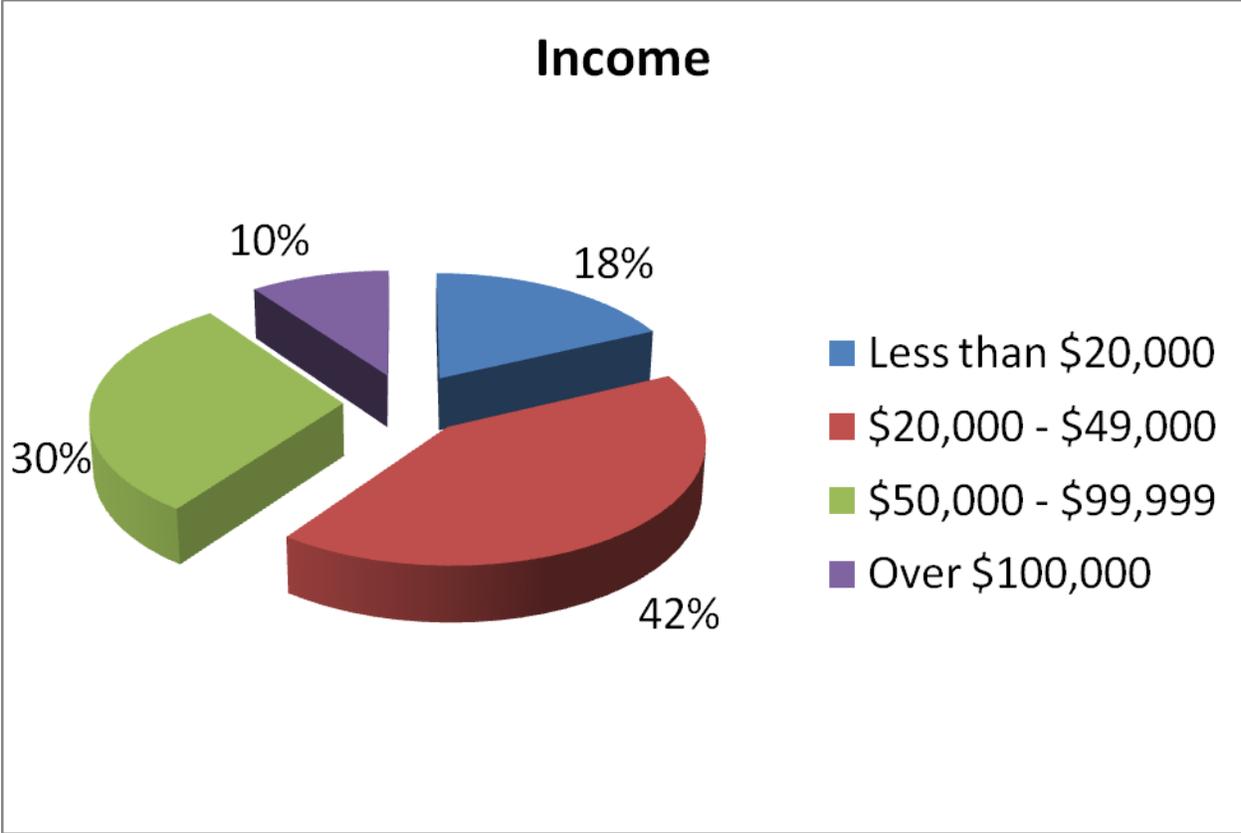


Figure 4.4 Percentage of respondents by income

Table 4.1 Demographic characteristics of the sample

Variables	Value	Percent
Education	Less than high school	5
	High school diploma	25
	Some college/Associate's degree	32
	College graduate	23
	Post college degree	14
Ethnicity	Hispanic, Latino(a), of Spanish descent	11
Race	White	83
	Black	13
	Asian	3
	American Indian or Alaskan native	1
	Native Hawaiian or other Pacific Islander	1
Age	18-24	12
	25-44	41
	45-64	29
	65+	18
Income	Less than \$20,000	18
	\$20,000 to \$49,999	42
	\$50,000 to \$99,999	30
	\$100,000+	10
Gender	Female	52
	Male	48

Table 4.2 Percent of respondents' visitation to National Park units by demographic characteristics

Variables	Count (N)	Visitor Status	
		Visitor (%)	Non-Visitor (%)
Race			
American Indian or Alaska native	28	32	68
Asian	90	33	67
Black or African American	406	14	86
Native Hawaiian or Pacific Islander	34	18	82
White	2631	35	65
Ethnicity			
Hispanic	379	27	73
Non-Hispanic	3026	33	67
Education			
Less than high school	186	15	85
High school diploma	865	18	82
Some college/Associate's degree	111	30	70
College graduate	799	44	56
Post college degree	487	50	50
Gender			
Male	1672	37	63
Female	1814	28	72
Age			
18-24	418	28	72
25-44	1390	34	66
45-64	971	36	64
65 +	591	23	77
Income			
Less than \$20, 000	512	18	82
\$20, 000 to \$49, 999	1164	29	71
\$50, 000 to \$99,999	835	42	58
\$100, 000 +	291	50	50

Bivariate Associations of National Park Visitation

This section describes the bivariate associations of race and ethnicity, gender, age, and education with national park visitation. Crosstabulations with chi-square (χ^2) were used to examine these associations. Visitor status was reported in three categories: (1) those who had never visited a national park in their lifetime, (2) those who had visited a national park in the last two years and could name the park unit, and (3) those who had visited a national park in their lifetime but not in the last two years or could not name the national park unit. Overall, each of the visitor status categories gives a perspective on visitation levels to national parks. However, for the purposes of this study, visitors were defined as those who had visited a national park unit in the last two years and could name the unit. This distinction provided a more valid view of national park visitation levels than did the other possible categorical distinctions.

The results for the bivariate analyses are shown in Table 4.3. Significant associations were observed between the socio-demographic characteristics of the sample (i.e., race and ethnicity, gender, age, and education) and national park visitor status. Males were more likely to be park visitors (36.7%) than were women (27.9%) ($X^2=30.69$, $p = .000$). Additionally those without college degrees were less likely (24.1%) to have visited a national park ($X^2 = 176.92$, $p = .000$). Younger adults were more likely (33.8%) to be park visitors as compared to older adults (22.7%) ($X^2=27.58$, $p = .000$).

In looking at individuals who were non-visitors, Blacks were more likely (81.5%) to have not visited a national park as compared to Whites (64.8%) ($X^2 = 58.44$, $p = .000$). Similarly,

Hispanics were more likely (72.6%) to have not visited a national park than non-Hispanics (67.3%) ($X^2 = 4.26$, $p = .039$).

Table 4.3 Bivariate associations between socio-demographic characteristics with National Park visitation status

Variables and Attribute Levels	Count	%	Visitor Status		X^2	<i>p</i>
			Non-visitor (%)	Visitor (%)		
Race					58.44	.000
Black or African American	406	12.7	81.5	18.5		
White	2631	82.5	64.8	35.2		
Ethnicity					4.26	.039
Hispanic	379	11.1	72.6	27.4		
Non-Hispanic	3026	88.9	67.3	32.7		
Education					176.92	.000
No degree	2161	61.6	75.9	24.1		
College degree	1286	36.7	54.0	46.0		
Gender					30.69	.000
Male	1672	48.0	63.3	36.7		
Female	1813	52.0	72.1	27.9		
Age					27.58	.000
18-64	2779	82.5	66.2	33.8		
65 +	591	17.5	77.3	22.7		

Result of Hypotheses Tests

This section provides the results of the hypotheses tests that were conducted to examine the effects of the independent variables race and ethnicity, gender, age, and education on the dependent variable of national park visitation. In this section, the dependent variable is limited to those respondents who had visited a national park in the past two years and could accurately name it (i.e., visitor) versus those who could and had not.

H1: Race and ethnicity, gender, age, and socioeconomic status will have a negative relationship with national park visitation.

This hypothesis was tested via logistic regression. Results of the Omnibus Tests of Model Coefficients revealed that at least one of the beta coefficients for the predictors of national park visitation was greater than zero. This indicated that there was an effect related to the independent variables of race and ethnicity, gender, age, or education.

Table 4.4 presents the logistic regression model, estimating the effects of race and ethnicity, gender, age, and education on the log odds of visitation to national parks. This model can be expressed as follows:

$$\text{Logit } (\pi) = .230 + (-.867) \text{ race} + (-.186) \text{ ethnicity} + (-.349) \text{ gender} + (-.627) \text{ age} + (-.948) \text{ education}$$

With the exception of ethnicity, all of the independent variables show a significant and negative relationship to national park visitation. Odds ratios were reported to show these relationships. Odds ratios greater than 1 reflect an increase of odds for an outcome of 1 (the reference

category) with a one-unit increase in the predictor; odds ratios less than 1 reflect a decrease in likelihood (Tabachnick & Fidell, 2007). Specifically, results suggest that in terms of race, the odds of those persons in a minority status group to visit a national park as compared to those with majority status were 58 percent less. Conversely, ethnicity, defined as Hispanic and non-Hispanic, was shown to be the lowest predictor. As compared to non-Hispanic individuals, individuals of Hispanic origin were 17 percent less likely to visit a national park. According to the model, education was shown to be the strongest predictor (odds ratio = .387) in explaining national park visitation. Compared to those with college degrees, those individuals without college degrees were 61 percent less likely to visit a national park. The results for independent variables were obtained controlling for the effects of other variables in the model (Table 4.4).

Based on the Nagelkerke R square, the model explains 11.4 % of the variation in visitation. However, the Hosmer and Lemeshow Test suggests that additional variables are needed to better explain national park visitation ($X^2 = 16.618$, $p = .020$). Family status operationalized as presence of children in the household was introduced as one potential variable to improve model fit. With an odds ratio of 1.03, its effect was not significant.

Overall, hypothesis 1 was supported by results showing a negative effect of race and ethnicity, gender, age, and education on national park visitation. All (with the exception of ethnicity) of the results were consistent with previous findings that show individuals who are members of minority status groups, female, older, and with lower levels of education are disadvantaged in regard to outdoor recreation participation (Arnold & Shinew, 1998; Floyd, 1999; Lee et al., 2001).

Table 4.4 Summary of logistical regression analysis for variables affecting National Park visitation (N = 3515)

Variable	B	Standard error (SE B)	p-value	Odds ratios (β)
Step 1				
Race	-.867	.124	.000	.420
Ethnicity	-.186	.166	.263	.830
Gender	-.349	.081	.000	.706
Age	-.627	.114	.000	.534
Education	-.948	.081	.000	.387
Step 2				
Race	-.872	.125	.000	.418
Ethnicity	-.190	.166	.252	.827
Gender	-.351	.081	.000	.704
Age	-.613	.119	.000	.542
Education	-.950	.081	.000	.387
Children	.034	.088	.703	1.034

H2: Individuals with low socioeconomic status (SES), members of a minority race/ethnic group, older adults, and females will occupy a lower rank in national park visitation than individuals with higher SES, members of majority race/ethnic groups, younger adults, and males.

To explore the combined effects of race and ethnicity, gender, age, and education on national park visitation, predicted probabilities were calculated. Table 4.5 displays the probability of visiting a national park among sixteen status groups among thirty-two total status groups implied by the multiple hierarchy stratification perspective. The groups were created from different combinations of race/ethnicity, gender, age, and education variables. At the lowest level were minority females over 65 with no college degree; at the highest level were majority status males under 65 with a college degree. Sixteen of the groups that fall somewhere in the middle were deliberately omitted, primarily because the theory does not tell much about groups in the middle. Instead, as the multiple hierarchy stratification perspective suggests, focus was placed primarily on the top and bottom of the hierarchy. For example, the probability of visiting a national park when an individual has majority race/ethnic status, is young male, and who has a college degree (stratum 1) equals

$$\pi = \frac{1}{1 + e^{-Z}} = \frac{1}{1 + e^{-(.219 + -.067(\sigma) + -.126(\sigma) + -.149(\sigma) + -.027(\sigma) + -.245(\sigma))}} = .557$$

In contrast, the probability for national park visitation when an individual is a minority, female, older, and without a college degree (stratum 16) equals

$$\pi = \frac{1}{1 + e^{-Z}} = \frac{1}{1 + e^{-(.219 + -.067(\sigma) + -.126(\sigma) + -.149(\sigma) + -.027(\sigma) + -.245(\sigma))}} = .072$$

This shows that young males with majority status who have a college degree are almost eight times (.557/.072) more likely than older minority females without college degrees to have visited a national park. These results support the hypothesis that older minority females without college degrees occupy the lowest rank in national park visitation as compared to young males with majority status and college degrees who occupy the highest strata. Although separate effects of race and ethnicity, gender, age, and education were not great, when combined, their effects were multiplied. This shows how race and ethnicity, gender, age and socioeconomic status can combine to exert a cumulative effect on national park visitation.

Figure 4.5 graphically represents the probability of national park visitation among sixteen groups representing various statuses within the multiple hierarchy stratification. Again, young majority status males with college degrees occupy the top stratum of the hierarchy, while older minority females without college degrees occupy the lowest level in the hierarchy. As represented in Figure 4.5, there are spikes in strata 6, 9, and 12. These spikes represent individuals of majority status, over 65 with varying levels of education. For example, stratum 6 represents majority males over 65 with a college degree ($p = .402$) while stratum 9 represents majority females over 65 with a college degree ($p = .302$). Depicted in stratum 12 are majority males over 65 with no degree. This suggests that not only was education a strong predictor of national park visitation, but also majority status.

This chapter provided a look at the descriptive profile of survey respondents. Further, a bivariate analysis of the associations of national park visitation with race and ethnicity, gender, age, and socioeconomic status was provided. The chapter concluded with a presentation of the

predicted probabilities for national park visitation based on the above sociodemographic characteristics. In the next chapter, the findings will be discussed in light of previous research, directions for the future, and practical applications.

Table 4.5 Predicted probabilities of visitation to National Park within the multiple stratification hierarchy (N = 3515)*

	Variables				Probability of Visitation
	Race/Ethnicity	Gender	Age	Education	
Stratum 1	Majority	Male	18-64	College degree	.557
Stratum 2	Majority	Female	18-64	College degree	.470
Stratum 3	Minority	Male	18-64	College degree	.346
Stratum 4	Majority	Male	18-64	No degree	.328
Stratum 5	Minority	Female	18-64	College degree	.271
Stratum 6	Majority	Male	65 +	College degree	.402
Stratum 7	Majority	Female	18-64	No degree	.256
Stratum 8	Minority	Male	18-64	No degree	.170
Stratum 9	Majority	Female	65 +	College degree	.322
Stratum 10	Minority	Male	65 +	College degree	.220
Stratum 11	Minority	Female	18-64	No degree	.126
Stratum 12	Majority	Male	65 +	No degree	.207
Stratum 13	Minority	Female	65 +	College degree	.166
Stratum 14	Majority	Female	65 +	No degree	.155
Stratum 15	Minority	Male	65 +	No degree	.099
Stratum 16	Minority	Female	65 +	No degree	.072

* Only 16 of 32 strata reported here.

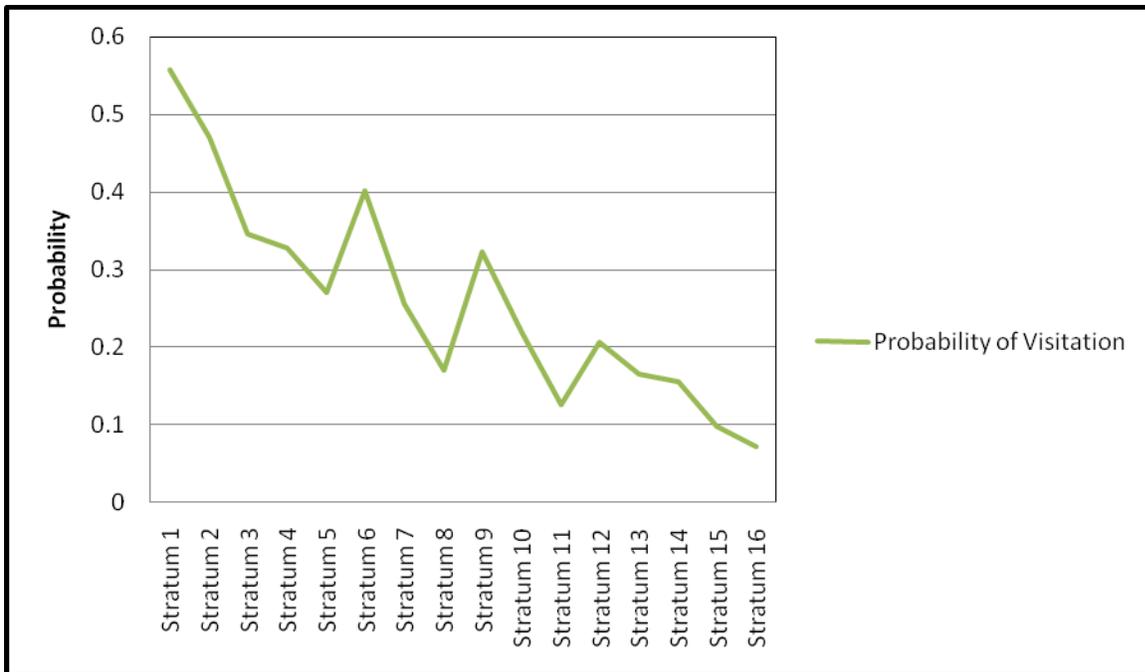


Figure 4.5 Probability of visitation to National Park units within the multiple stratification hierarchy

Chapter 5

Discussion and Conclusions

The purpose of this study was to examine the effect of race and ethnicity, gender, age, and socioeconomic status on national park visitation. This chapter presents a discussion of the findings of this study. The first section will summarize the results of the hypotheses tests and discuss how these results compare to past research. The sections following outline management and policy implications, suggestions for future research and the strengths and weaknesses of the current study. The final section provides a summary conclusion.

Previous studies that employed the multiple hierarchy perspective in leisure studies (i.e., Arnold & Shinen, 1998; Lee et al., 2001; Shores et al., 2007) have focused primarily on the use of state and local parks. Other studies (i.e., Arnold & Shinen, 1998; Floyd et al., 2006) examined differences in psychological or behavioral aspects of leisure. For this study, the multiple hierarchy perspective was used to assess national park visitation. Specifically, the combined effects of race and ethnicity, gender, age, and education on national park visitation was examined using a national probability sample. This study is one of the first of this kind to apply the multiple hierarchy perspective to national park visitation.

Discussion of Results

Crosstabulations with chi-square were employed to test the bivariate associations of race and ethnicity, gender, age, and education with national park visitation. Results of these analyses

found that significant associations existed between the socio-demographic characteristics of the sample and national park visitation, allowing for further statistical analyses of the data.

Discussion of Hypothesis 1

H1: Race and ethnicity, gender, age, and socioeconomic status will have a negative relationship with national park visitation.

Hypothesis 1 was tested using logistic regression. Results were consistent with previous studies that explored the individual effects of race and ethnicity, gender, age, and socioeconomic status in general. Excluding ethnicity, all of the independent variables showed significant and negative relationships with park visitation. Education was shown to be the strongest predictor of national park visitation. This is consistent with studies by Bultena and Field (1978) and more recently Solop et al. (2001a) who also found education was a strong predictor in national park visitation. Past research shows education is highly correlated with outdoor recreation participation in general (Kelly, 1983; Lucas, 1990; White, 1975). In this study, compared to those with college degrees, those without degrees were 61% less likely to visit a national park. This contrasts data on state parks reported by Lee et al. (2001). Their study indicated those without degrees as only 33% less likely to visit a state park when compared to those with degrees.

In terms of race, minority status individuals were 58% less likely to visit national parks than those with majority status. Similarly, Payne, Mowen and Orsega-Smith (2002) found Blacks less likely to have visited a park in the past year. While their study examined urban Cleveland

Metroparks, the findings were consistent with this study. These findings may be attributed to the notion that minority status is associated with a negative influence on outdoor recreation participation. Historical patterns of discrimination, limiting socioeconomic backgrounds, and differing subcultural values can all contribute to this negative influence.

Findings from this study are also consistent with previous showing independent effects of race and ethnicity on leisure participation (i.e. Floyd, Shinew, McGuire & Noe, 1994; Washburne, 1978). According to the ethnicity or subcultural hypothesis, values or meanings related to respondents' racial or ethnic background appear to affect national park visitation since education, age, and gender were controlled.

Results were also in line with previous studies of gender and aging (Bialeschki & Henderson, 1991, Gordon et al., 1976; Johnson et al., 2001; Lee et al., 2001). For example, Bialeschki and Henderson (1991) suggested, a lack of sense of entitlement may limit women's leisure opportunities. Johnson et al. (2001) found women who participated in outdoor recreation were more likely than men to feel constrained by threat of safety as well as by lack of adequate facilities. These results suggest that female respondents were less likely to visit national parks compared to males.

In terms of aging, the negative association of age and national park visitation is consistent with earlier research. For example, Gordon et al. (1976) found a significant decline in leisure participation over the lifespan. Kelly's (1980) research showed that active leisure declines with age. More recently, Scott and Munson (1994), Scott and Jackson (1996), Lee et al. (2001), and

Floyd et al. (2006) reported negative associations between age and outdoor recreation participation.

Thus far the single effects of race and ethnicity, gender, age, and socioeconomic status have been evaluated. Results are consistent with previous findings that show members of a minority status group, females, older adults, and those with lower levels of education are disadvantaged concerning outdoor recreation participation (Arnold & Shiner, 1998; Floyd, 1999; Lee et al., 2001; Jackson, 1996; Scott & Munson, 1994).

Discussion of Hypothesis 2

H2: Individuals with low socioeconomic status (SES), members of a minority race/ethnic group, older adults, and females will occupy a lower rank in national park visitation than individuals with higher SES, members of majority race/ethnic groups, younger adults, and males.

Predicted probabilities using the logistic regression model formula were calculated to explore the combined effects of race and ethnicity, gender, age, and education on national park visitation. As suggested by MHS, younger majority status males with college degrees occupied the top stratum of the hierarchy while older minority females without degrees were in the lowest stratum. The probability for visiting a national park for young majority males with degrees was .557. Conversely, the probability for older minority females without degrees was .072. This indicated that those individuals in the highest stratum of were almost eight times more likely to visit a national park than those in the lowest stratum. This difference is almost three times more

than the combined effect reported in state park visitation (Lee et al., 2001) and almost five times the effect in recreational fishing (Floyd et al., 2006). In 2001, Lee et al. reported young white males with college degrees and incomes greater than \$20,000 were three times more likely to visit a state park than older minority females without degrees and incomes below \$20,000. Results from the study also show those occupying the highest stratum were almost four and a half times more likely to participate in recreation away from home. In looking at a specific activity, Floyd et al. (2006) found respondents who were young, White, college educated and earning over \$20,000 annually were one and half times more likely to have gone fishing in the past five years than were their counterparts. This effect is five times less than the effect found in the current study. Floyd et al. (2006) suggested due to fishing's widespread appeal, it might operate as less of a status marker than other outdoor activities.

The graphical representation of the predicted probabilities in Figure 4.5 of the previous chapter showed spikes in Strata 6, 9, and 12. Despite the varied combinations, one factor remained constant. Individuals in each of these strata were of majority status. This suggests that not only is education a strong predictor of park visitation, but also race and ethnic status. This supports previous studies (Payne et al., 2002; Philipp, 1998; Solop et al., 2001a) by suggesting that race and ethnicity as an important determinant of recreation behaviors and preferences. Jaynes and Williams as quoted by Philipp (1998) asserted race as the single most important factor affecting housing, education, and employment. As such, one can expect both education and race to be strong predictors of park visitation.

On the whole, results of the hypothesis tests supported the multiple hierarchy stratification perspective. Although the individual effects of race and ethnicity, gender, age, and education on national park visitation were not immense, the effects were multiplied considerably when individuals occupied multiple disadvantaged statuses. Findings provided strong support for the prediction that older minority females without college degrees indeed occupy the lower stratum in the hierarchy of national park visitation. Conversely, younger males with majority status and college degrees occupy the highest rank in the national park visitation hierarchy. Not only are these results consistent with previous tests of the multiple stratification hierarchy perspective (Floyd et al., 2006; Lee et al., 2001; Shores et al., 2007) but also with studies applying the double jeopardy hypothesis done in gerontology and criminology (Dowd & Bengston, 1978; Ortega & Myles, 1987). According to MHS, this suggests older minority females from low socioeconomic backgrounds confront barriers and constraints related to multiple status positions and this negatively affects participation in outdoor recreation and visitation to national parks.

Management & Policy Implications

As the population ages, women outlive men, and the racial and ethnic composition of the United States shifts, the mission, vision, and management policies of park and recreation agencies may be impacted by these changes. As Payne et al. (2002) suggest, though these agencies may have in the past directed efforts at a fairly homogenous constituency, the sociodemographic characteristics of their service areas may become significantly more diverse in terms of race, ethnicity, and age in light of current population shifts. Gramann, Floyd, and Ewert

(1991) suggest differences in the ways people of color define recreation settings have begun to challenge normative ideals regarding how natural areas should be experienced and managed. As such, park and recreation agencies must take a more critical look at the types of services and experiences they provide.

The National Park Service is no different. Heralded as a unique collection of natural and cultural resources for the benefit of the American people, the National Park Service faces the challenging issue of making park units more accessible to broader segments of the population, especially racial and ethnic minorities (Floyd, 1999). The US Census projects that by the year 2050, Blacks, Hispanics, and other minority subpopulations will constitute an equal portion with that of non-Hispanic Whites. Yet racial and ethnic minorities still remain largely unrepresented among national parkgoers (Goldsmith, 1994). This study provides a brief look at some of the sociodemographic factors affecting park visitation.

In the logistic regression results, education was the strongest predictor of visitation. The NPS has been criticized in the past for catering to elite segments of society. Goldsmith (1994) described early national parks as the domain of the wealthy, affluent class. Similarly, Meeker (1991) observed that the poor were excluded from national parks, the playgrounds of middle and upper class Americans. Bultena and Field (1978) provided empirical evidence of a social class bias in national park visitation. Similarly, the current study found that college education discriminates between visitors and non-visitors of national parks. This finding should be of concern to national park managers at all levels. As public resources, national parks should be

perceived as accessible by individuals from all socioeconomic classes. It would be detrimental to the image of the NPS to continue to be seen as exclusive terrain of high SES individuals.

As shown in this study, education, race, and ethnicity are the strongest predictors of national park visitation. Moreover, these variables “act” in concert. Knowing this, managers can begin to find new ways to “sell an old product” to those often underserved. The Park Service and its partners started some exciting initiatives to address the absenteeism of people of color in National Park units (Goldsmith, 1994). For example, Chattahoochee River National Recreation Area has a successful program with schools in and around the Metro Atlanta area. The park maintains an environmental education center (CREEC) where school field trips and other community activities take place. Maintenance of this facility aids as a tool for bringing the park to the community. Similarly, Golden Gate National Recreation Area works in conjunction with the Chrissy Field Center to provide wilderness and environmental education opportunities for inner city youth. Such programs are examples of reaching out to lower income and racially and ethnically diverse audiences.

Park managers need to review their services vis-à-vis the needs of the increasingly diverse populations. This will have effects on the way visitor services are delivered and the types of programming offered, as well as important implications for partnerships and public support in the future. In 1999, the National Park Service recognized this and implemented a five-year strategic plan developed to increase diversity within its workforce, modify its interpretive programs and materials, educate its employees, and incorporate diversity into its daily operations (Rodriguez & Roberts, 2002). As specified in the National Park Advisory Board Report (2001),

“as the demographics of America have changed, so too must the Park Service’s educational efforts.” (p. 3). This report suggests programs, exhibits, and audiovisual presentations be developed in multiple languages and for all ages.

Additionally, changes in the social composition necessitate managers begin to think of new avenues for partnerships and public support. After all, the National Park Service is a government agency that garners its support from its constituency. Directors Orders 75A (2003) mandates that the National Park Service be inclusive and committed to public involvement and stakeholder needs in whatever capacity possible. Working more closely with the general public, particularly those underserved and often disadvantaged populations, can help build stronger relationship between the Park Service and the public, garnering stronger political support. Stronger support could lead to increased interest in parks as well as increased visitation to those areas. As suggested by the NPS Strategic Plan (1997), more minorities do not visit national parks because many parks don’t offer experiences relevant to them nor have they made their values relevant to them.

Finally, changing demographics and low visitation among disadvantaged populations raise issues related to equity and environmental justice (Floyd & Johnson, 2002; Taylor, 2000). As related to the National Park Service, issues of equity and environmental justice center around creating policies and management actions that won’t have consequences that are negative and have disproportionate impact on communities of color, low income, and other marginalized groups. Since 1994, federal agencies have been directed by Executive Order 12898 to identify “differential patterns of consumption of natural resources among minority populations and low-

income populations” and to ensure that agency programs, policies, and procedures that affect human health or the environment do not exclude persons from the benefits related to these activities (Executive Order 12898, 1994). Outdoor recreation provision on federal lands though not named is implied. Use of national parks, like other outdoor recreation opportunities, provide numerous benefits to individuals (i.e. learning, nature enjoyment, stress reduction) and communities (i.e. economic development, jobs, etc.) (Driver, Brown, & Peterson, 1991; Moore & Driver, 2005). As the NPS acts to address declining visitation, ways in which their actions recognize the perspectives of diverse groups, especially by race, ethnicity and income, should be made explicit. In other words, changes in management policies should be made in view of potential impacts on low SES and minority groups (Floyd & Johnson, 2002).

Future Research

There are many directions this research could take from this point. Described below are a few directions believed to be important based on their potential for practical application.

While research is consistent showing racial and ethnic minorities, women, older adults, and those from lower socioeconomic backgrounds participate less frequently in outdoor recreation activities, reasons for this lack of participation are not clearly understood. Further research should be conducted that examines specific attitudes, perceptions, and constraints of these populations. For example, how does threat of violence or fear for safety affect women’s visitation to national parks? Is this different for women of color? Why? Having more information about these types of constraints can help Park Service managers better accommodate and think of

alternative ways to serve their public. Whether this means more visibility of law enforcement or group activities targeted to serve women in parks.

Another question to consider is: how does perceived discrimination affect the recreation patterns and preferences of individuals in multiple disadvantaged statuses? How does this constrain their leisure? A study by Levin, Sinclair, Veniegas, & Taylor (2002) found that although it was expected that perceptions of gender and ethnic discrimination would cause women of color to have greater overall expectations of general discrimination as compared to white women, men of color, and white men, the expectation of women of color for discrimination did not differ from their black male counterparts. Expanding the findings from this work and applying the multiple hierarchy perspective in looking at national park visitation could provide a better, more comprehensive understanding of national park use.

Walker and Kiecolt (1995) identified social class as a constraining factor limiting access to wilderness settings. According to Walker and Kiecolt (1995), leisure research has tended to ignore social class. However, wilderness areas have been territorialized by what they call the semiautonomous class. This view is also suggested by Bultena & Field (1978) findings in study of elitism in national parks. Walker and Kiecolt (1995) viewed social class distinctions as a more promising predictor of wilderness use than socioeconomic status. Research should further examine social class an inhibitive factor to national park visitation. In particular, research is needed to demonstrate how education effects adoption of national park going. It could be that an individual's education is a mediator between parental education and national park visitation.

Current trends also suggest an active, newly retiring older generation. According to Greenblatt (2007), baby boomers will have a greater opportunity to live a youthful old age. People are living longer and in many cases in better health than their predecessors. What does this mean for outdoor recreation in general? What does this mean for the National Park Service? This trend also calls into question the idea of older age as a restrictive or rather inhibitive factor to recreation participation. The study by McGuire et al. (1989) found that older park visitors did not emphasize active forms of park use. That could change in the future. Future research should be done to investigate how these shifts in age and lifestyle will affect preferences, attitudes, and activity participation of older adults.

Along similar lines, research that provides some baseline information on perceptions and preferences held by minority users of parks is also needed. What types of parks or cultural areas are of interest to these populations? What are their values and beliefs as related to the natural environment? What do they think about park facilities, resources, and staff? This may require more qualitative and mixed method studies to understand the associated meanings and values of natural areas, particularly national parks. Future studies should also conduct comparisons by type of parks (e.g., natural areas vs. cultural/heritage parks).

Similarly, evaluative research should be done on communication practices, marketing of parks and park resources, programming, and staff among members. For example, Solop et al. (2003) found that Hispanic and Black respondents were less likely to visit parks due to lack of knowledge about parks. The study found these populations felt constrained by poor service for park staff, fear of safety, and fees associated with park visits. In light of this, how do people find

out about national parks? What is the effectiveness of the different media used to attract park visitors? Is the NPS attracting their target demographic? What types of programs are offered and what should be offered? How can NPS employees be better equipped to deal with diversity. As Goldsmith (1994) asserts, noble aspirations are good, but without a better understanding of visitation, resources are wasted on ineffective measures.

Study Limitations

This study employed the use of secondary data in the form of a national probability sample. This presented several strengths as well as some weaknesses. Strengths of the study were the large random stratified sample. A large random sample increases the sample's representativeness of the population as well as its generalizability. Aside from economy of cost and time, use of the data set also allowed for a large-scale study of park visitation that otherwise would have been not possible. Moreover, the data used directly addressed the question of national park visitation. As Solop et al. (2001a) stated, the data set provides for a wealth of information and research avenues that have in the past been relatively unexplored.

A limitation of using secondary data is that the data may not always fit the specific research questions. While the data set did address the issue of park visitation, some of the questions asked did not exactly get at research questions for the current study. For example, ethnicity did not show significant results in the individual model. This might be attributed to the design of the original study. Respondents were asked about the racial and ethnic categories with which they identified. However, these were not mutually exclusive. Since Hispanics can be of

any race, steps should have been taken to quantify race as separate from ethnicity. For example, based on the original study design non-Hispanic Whites were not distinguished from White Hispanics nor were non-Hispanic Blacks distinguished from Black Hispanics. This limited analysis of the data in that it was difficult to make comparisons based on potentially convoluted majority and minority statuses. Since race and ethnicity are two distinct concepts, though often used interchangeably, it is important to recognize the differences between race and ethnic minority statuses, particularly when developing questions for survey instruments.

One additional limitation was the models used in this study were limited to five variables. While other factors exist that may influence visitation to National Park units, use of these variables were supported by previous studies (Floyd et al., 2006; Lee et al., 2001, Shores et al., 2007). In the future, however, the model should be expanded to look at other correlates, such as ethnic identity, disability, and psychological factors such as constraints or attitudes and knowledge related to national parks, that may affect visitation, thus potentially strengthening the model.

Conclusions

The increasing diversity within the U.S. population presents both challenges and opportunities for the National Park Service. Understanding this, it becomes incumbent upon the National Park Service to rise to meet the challenge by beginning to address some of these issues. If visitation to National Park units continues decrease and public support declines, the NPS must take a more critical look at the types of services and experiences in provides, especially in

relation to multiple disadvantaged populations that are currently underrepresented. This will be a formidable task, but one well worth the effort. After all, if the treasures of the park system are not being enjoyed by people of society, then the National Park Service is not meeting its goals (Goldsmith, 1994).

This study provided an examination of the effects of race and ethnicity, gender, age, and socioeconomic status on national park visitation. It posited that individuals from multiple disadvantaged statuses were less likely to be visitors to national parks. This has important implications for park service managers in the future. As the American population undergoes race and ethnic transformation and population aging, policy actions should address status characteristics that would potentially hinder access to public outdoor recreation opportunities, especially in the nation's national parks.

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