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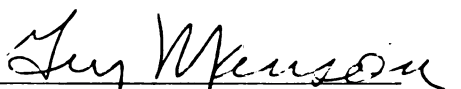
PERCEPTIONS OF CRIME AND
CONFLICT IN URBAN PARKS AND
FORESTS

presented by

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has been accepted towards fulfillment
of the requirements for

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PERCEPTIONS OF
CRIME AND CONFLICT IN
URBAN PARKS AND FORESTS

By

Theresa N. Westover

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ABSTRACT

PERCEPTIONS OF CRIME AND CONFLICT IN URBAN PARKS AND FORESTS

by

Theresa N. Westover

Research related to environmental perception has revealed the importance of the "images" of places in shaping interactions between people and their environment. Recently, park settings have been investigated to determine their "images," as well as the kinds of behavior, activities, and social atmosphere people expect to encounter. Because one aspect of park environments of special concern to park agency personnel is antisocial behavior, park users' perceptual and behavioral responses to antisocial behavior in district level parks are examined in this study.

Face-to-face structured interviews of randomly selected park visitors were conducted in three Midwestern district level parks. The relationships between respondents' perceptions of personal safety in the park and their individual characteristics and reported behavior are examined with the use of simple proportions and nonparametric measures of association, statistical significance, and proportional reduction in error.

Study results indicate that district level parks are generally perceived to be safe environments. Evenings are considered less safe than days in the parks. Only gender is strongly associated with both perceptions of safety and reported avoidance behavior. Female respondents are much more likely than males to report feeling unsafe in the park and to report avoidance behavior due to concerns about safety. More generally, there is also a fairly strong and significant association between perceptions of park safety and reported avoidance behavior.

Study results have implications both for the park manager or planner wishing to improve recreation provision for his or her clientele and for research addressing spatial decision-making, behavior, and perceptions of public spaces. These data also indicate that perceptions of safety directly influence behavior in the park. Confirmation of this relationship, however, requires detailed observation of park users' on-site behavior.

Dedicated to Ron Hodgson;
my first and favorite mentor,
for his belief in my ability and
his persistence in convincing me to try.

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CHAPTER ONE: INTRODUCTION

An important goal of research in human geography is to better understand how people interact with the environment. Pattison identifies this as the "man-land tradition" in geography [1]. This quest for understanding has led geographers into many different avenues of inquiry. Some have concentrated on people-environment interactions in particular types of settings such as urban locales, workplaces or recreation sites. Others have chosen to pursue insights into the spatial pattern, causes, and effects of particular behaviors such as migration, home or recreation location choice, crime, innovation diffusion, or human response to various hazards [2,3,4,5,6,7].

Many geographic inquiries into human-environment interaction are pursued within the conceptual framework of "environmental perception." This approach stresses the importance of peoples' "images of . . . surroundings as a key to unraveling the nature of man-land transactions" [2,p.ii]. Thus, the social meanings that people attribute to different components of the environmental setting shape their behavioral responses to and within that setting.

The present study of fear of crime in urban and suburban district level parks focuses on perceptions of particular behaviors within a particular setting. While organized within the conceptual framework of environmental perception, this study also draws from and contributes to

the subfields of recreation geography and the geography of crime, as well as the interdisciplinary field of leisure study.

Crime and conflict, ranging from controversies over nude sunbathing to violent crimes, are increasingly pervasive and costly problems in recreation settings [8,9,10,11,12,13]. Surveys of recreation agency personnel repeatedly reveal vandalism, litter, and other user problems to be high priority management concerns [9,14,15]. The National Park Service reports a 7.2 percent increase in felony crimes between 1975 and 1978 and estimates operating costs due to vandalism have more than doubled between 1974 and 1978 [16]. Some urban area park managers report vandalism costs as high as \$1000 a week [17]. In addition to the direct costs of increased maintenance and enforcement, many indirect costs are also incurred. Recreation opportunity is decreased through restrictions and reductions in facilities and programs. Users, particularly in urban areas, may modify their visitation patterns or stay away entirely due to fear of conflict or criminal attack [18]. Overall, antisocial behavior problems, together with the anxieties and expectations they produce, serve to decrease the satisfaction of both park users and employees.

This study examines the extent to which selected park settings are considered threatening or conflict laden by park users. In addition, the behavioral responses of park users to both perceived and observable characteristics of selected park environments are identified. The specific research questions examined are:

- (1) Do park users feel safe in the parks?
- (2) How do the individual characteristics of park users relate to their perceptions of park safety and behavioral responses to perceived safety?

- (3) How do park users' perceptions of park safety relate to their behavior in the park?

The Geographic Context: Identifying an Investigative Framework

Since classical times, human interaction with the environment has been a prominent topic in geographic inquiry [1]. Within this tradition, cultural geographers have traced human actions and societal development through the study of artifacts, settlement patterns, and other observable phenomena [2]. Social and urban geographers have approached the question of human-environment interaction through the study of aggregate behavior and the spatial expression of social institutions. Work in urban ecology has searched for correlates of social phenomena such as juvenile delinquency in the structural and social contexts of cities [4,7,19].

It has been argued that traditional approaches to people-environment relationships have ignored the importance of individual roles, decision, relationships, attitudes, and behaviors that combine to form the observable aggregate patterns [20]. This desire to focus on individuals rather than aggregates has prompted work in environmental perception and the emerging subfield of behavioral geography. Lowenthal's "Geography, Experience, and Imagination," published in 1961, is generally credited as the major impetus for the development of environmental perception research in geography [21]. In this article and in subsequent works, Lowenthal points out the importance of cultural and personal values in perceptions and uses of the physical environment [21,22,23,24]. Cultural and social geographers embraced this viewpoint as consistent with their basic concepts and investigative techniques.

Over the last twenty years geographers' interests in the "image" or perceptions of different human settings have stimulated work in a variety of directions. Some have approached questions of cultural or shared "images" of places from the historical perspective by examining the influence of perceptions on past population movements and settlement patterns [25,26]. Others have investigated the influence of these images on current residential preference patterns, landscape assessments, public policy formulation, individual decision-making and overt behavior [27,28,29,30,31,32,33]. Still others have concentrated on how individuals develop images or "mental maps" of areas and how spatial information is learned, used, and remembered [34,35,36,37].

Much of the work in environmental perception, particularly that on spatial learning and cognitive maps, is based on the assumption that the process and product of perception can be decomposed and that the component parts may be measured and compared to an objective reality. These assumptions are consistent with a logical-positivist philosophy which assumes that human behavior is ultimately measurable and is, in some instances, amenable to mathematical modelling [33,36]. Concurrent and often intertwined with these works are geographical studies of perception and behavior more characteristic of traditional cultural geography and humanist philosophies, stressing more holistic and subjective approaches to understanding the cultural landscape and its meaning [2,38,39,40,41,42].

Questions regarding the inherent "measurability" of environmental images and their influence on individual or collective behavior have been raised. Bunting and Guelke contend that, due largely to

methodological problems, work in environmental perception and behavioral geography has contributed little of explanatory value in understanding spatial behavior [43]. Their objections are based on the recognized difficulties of eliciting reliable information from individuals regarding such subtle and complex psychological constructs as environmental "images" and the lack of a standardized, rigorously tested methodology for doing so. Further, they protest that the alleged link between these images and observable behavior is based on very little empirical evidence. Their proposed avenue for the subfield's return to relevance is a reorientation to describing and evaluating observable, overt behaviors. The environmental images that people hold and the influence of those images on behavior can, they argue, be better identified by inference from actual behavior. Further, by

focusing on overt behavior of geographic significance one commences one's investigation on a foundation of solid, verifiable fact. Even if one fails to provide an acceptable explanation, at least a good description of a specific group of pertinent value to other research could be provided [43, p.462].

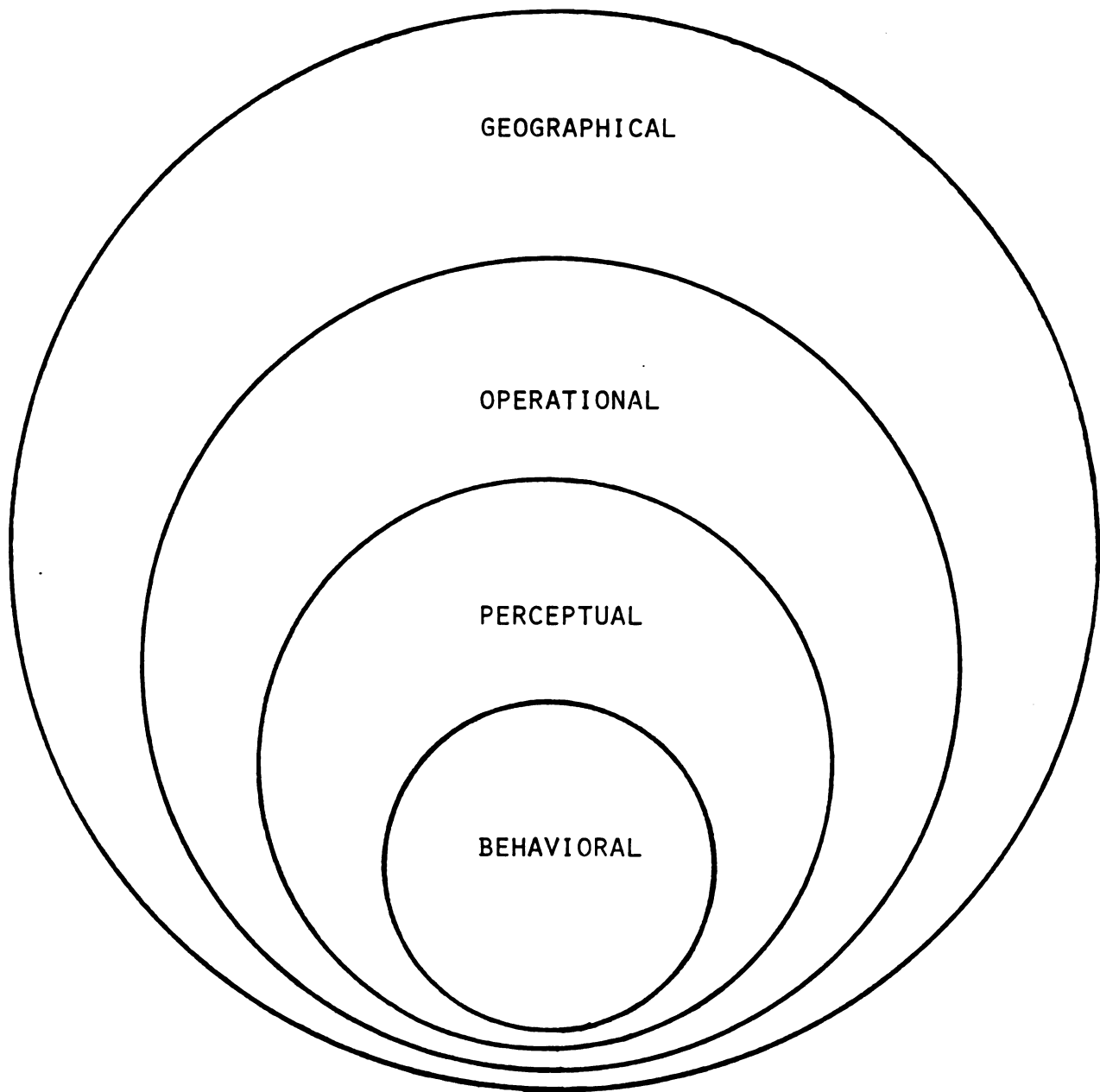
In response, researchers in this area agree that there are methodological weaknesses in current approaches but argue that Bunting and Guelke fail to recognize the relative youth of the field, the advances that have been made, and the complexity of the problem. Shifting the focus to regard only observable behavioral responses to environments is retrogressive, not progressive, in their view. Further, they argue, there is ample empirical evidence to suggest a direct link between environmental perceptions and behavior [44,45,46]. Besides, Saarinen points out, if Bunting and Guelke really believe there is no demonstrable link between perceived images and observed behavior, then their criticisms of measurement accuracy and methodology are "beside the point."

Saarinen states, if

images are important we should find some way of measuring them. Even a rough measure of a significant variable is better than a precise measure of something that does not matter. Along with this we should make every effort to understand how much and in what directions disparities between image and action probably will go [45,p.465].

One way to avoid some of the difficulties alluded to above is to work within a framework that clearly identifies the various aspects of environmental perception and behavior to be examined. Responding to the confusion arising from vague definitions of "environment" as used in behavioral and social science, Sonnenfeld has proposed a four level, hierarchial classification of the human environment [47]. The first and most general level is the geographical environment which includes all objects and phenomena external to the individual, whether or not he or she is aware of them (Figure 1). Next is the operational environment, defined as that portion of the geographical environment which impinges on the individual and influences behavior in one way or another. Operational environments, unlike the geographical environment, differ from group to group and individual to individual.

Within the operational environment each individual possesses unique perceptual and behavioral environments. An individual's perceptual environment is comprised of those environmental factors that he or she is conscious of. This includes both physiological stimuli such as color and light intensity, and the meanings associated with these stimuli, through learning and experience. Thus, the perceptual environment has "both sensory and symbolic dimensions" [47]. It includes various environmental cues that have meaning only when interpreted through cultural and individual value systems and experiences. The last



SONNENFELD'S BEHAVIORAL CLASSIFICATION OF ENVIRONMENT

FIGURE 1

level in the hierarchy is the behavioral environment or that portion of the perceptual environment which elicits overt behavior. This active interaction with the environment may take the form of modifying either some aspect of the environment (change) or one's exposure to it (movement). This classification and the distinction between behavioral and perceptual environments allows a conscious differentiation in research design and analysis between, on the one hand, what people are aware of, how they feel about the environment, and their responses to hypothetical situations, i.e. aspects of their perceptual environments, and, on the other hand, how people behave within the environment and overtly respond to various environmental stimuli, i.e. elements of their behavioral environments. These distinctions facilitate investigation of the relationships between the perceptual and behavioral environments.

When applied to a particular setting or type of environment, Sonnenfeld's approach is augmented by perspectives from ecological psychology. Ecological psychologists Barker and Wright set out in the late 1940s to examine human behavior in natural, rather than laboratory, settings. During their field research they identified "behavior settings" which provide the milieu and environmental cues eliciting generalizable or "standing" patterns of behavior [27, pp.84-88]. Thus, they established that people identify certain behaviors with certain environments. Following this paradigm, researchers investigate how the available settings for behavior (1) are interpreted by the people in them, and (2) facilitate appropriate behavior patterns. Behavior settings include both physical, or design elements and social characteristics.

Research investigating the influence of design on behavior ranges from micro-level studies of room geography to investigations of response to architectural elements of cities and neighborhoods [27,48,49,50,51]. Introduction of the social aspects of behavior settings adds considerable complexity to the investigation but it also enriches the explanations of observed behavior. Wicker suggests that behavior settings have self-regulating mechanisms that tend to support acceptable standing patterns of behavior [52, pp.62-64]. Thus, people either work out mutually satisfactory behavior patterns within a given behavior setting or one is rejected by the other, i.e. the potential participant leaves. Much of the work in ecological psychology focuses on the behavioral environment, but the importance of the perceptual environment is recognized. Clearly, interpretations of environmental cues or symbols are important in determining subsequent behavior and these interpretations depend on individual personal and contextual elements [51,52,53]. Furthermore, investigation of how people feel about environments, what their emotional response or satisfaction level is, remains a viable strand of the people-environment and humanist traditions within geography.

Perceptions of Park Safety and Behavioral Response

The operational environment of park users is defined as the observable physical park characteristics, e.g. park design, facilities, and setting; social characteristics, e.g. types of users, their behavior, and spatial distribution in the park; and managerial characteristics, e.g. the presence of enforcement officers, the park's hours of operation, and entry controls. Park users' perceptual environments consist of their interpretation of these overt characteristics. The

behavioral environments of park users are demonstrated in both observable patterns of behavior in the park and users' reports of what they do and where they go while visiting the park. By examining each of these levels of environment, as they relate to perceptions of park safety, interconnections between the different levels may be illuminated. Further, the "behavior settings" provided by district level urban and suburban parks and various responses to them can be explored in a limited fashion.

This study addresses, first, the overall "image" of the parks as safe or unsafe environments. Both the perceived safety of the park relative to other settings and temporal variations in perceived safety are examined. Next, the influence of users' individual characteristics, such as gender, age, race, and familiarity with the park, on safety perceptions and related behavior is evaluated and the direct association between perceptions of safety and behavioral response is addressed.

Investigation of safety related perceptions and behavior of park users has both pragmatic and theoretical significance. Park planners, management, and enforcement personnel need such information to identify problem areas and design more effective crime prevention strategies. Further, theory development in both leisure research and behavioral geography requires insights into how people perceive particular social and physical environments and how these perceptions are translated into overt behavior.

CHAPTER TWO: LITERATURE REVIEW

Introduction

The subfield of recreation geography includes a variety of research approaches and topics. Geographic analyses of recreation phenomena began to appear during the 1930s with discussions of recreational land use and tourism [54]. Through the 1960s recreation geographers continued to focus on the economic impacts and significance of recreation related development [54,55]. Stankey notes that recreation geography has traditionally been considered a subcomponent of economic geography by virtue of this early emphasis on land use and economic aspects of recreation resources and activities [54,p.76].

After World War II recreation activities, travel, and both public and private recreation related expenditures expanded dramatically [56,pp.34-39]. Correspondingly, recreation related topics received increased academic attention from geographers and other social scientists. By the early 1970s recreation geography textbooks began to appear and geographers had assumed leading roles in both government agency and interdisciplinary academic investigations of recreation topics [54,pp.78-79]. Many of these studies continued to address inherently spatial issues of recreation related travel and site choice. Mathematical models predicting recreation travel flows and recreation

facility use levels were developed and continue to be an important component in the increasingly diverse subfield of recreation geography.

It became apparent, however, that the spatial considerations of location, distance, travel time, and population density did not fully explain observable variations in recreation site choice or use levels. Geographers and other recreation researchers began to address more subjective issues such as attitudes, landscape preferences, and recreation facility development preferences in their efforts to understand and predict recreation behavior [59,60,61]. At the same time, geographers and others working from humanist or environmental perception viewpoints began to discuss the meaning or "image" of recreation pursuits and places over time and space [62,63,64]. Tuan and Graber, for example, demonstrate how the symbolic value, use, and cultural importance of wilderness areas have changed over time [65,66,67]. Thus, recreation geography has expanded from an early preoccupation with economic issues to encompass a fuller range of geographic perspectives and approaches.

Geographic discussions of place "images" are consistent with work by sociologists, anthropologists, and psychologists which address the social or symbolic meanings associated with different kinds of environmental settings [2,3,21,39,49,52,53,65,68,69,70]. The various components that combine to define place "images" or "social definitions," and their significance in influencing behavior remains a new and growing field of academic interest. This perspective offers opportunities for significant insights into recreation places and behavior than can enrich the subfield of recreation geography.

Images of recreation environments and behavior in park settings have been examined at several scales of analysis using a variety of approaches. Recently, theoretical structures relating recreation behavior to particular types of park settings have begun to emerge. In this chapter these classification schemes and definitional structures are examined, together with supporting evidence from studies in various settings. Each of Sonnenfeld's levels of environment, i.e. the operational, perceptual, and behavioral, is examined in terms of how they differ in different types of park settings.

Next, the specific problems of crime and conflict in recreation environments are addressed. Again following Sonnenfeld's structure, objective evidence regarding the prevalence of depreciative behavior in parks is first discussed, followed by examination of available materials illustrating park users' perceptual and behavioral responses to these problems. These previous studies of depreciative behavior in different park settings form the basis for the present study. The specific research questions addressed and hypotheses tested are presented in the final section of this chapter.

Parks as Behavior Settings

Public outdoor recreation settings carry various administrative labels such as "park," "forest," "forest preserve," "park reserve," "arboretum," "recreation area," and so forth. For purposes of this discussion the term "park" is generic, including all types of outdoor recreation settings. Similarly, although there has been endless academic debate regarding the difference between "recreation" and "leisure," these terms will be used interchangeably in reference to the

types of activities that typically occur in park settings [56,70].

Parks may be classified according to level of administrative responsibility, size, location, or any number of other criteria. Several researchers have proposed continuums or hierarchial arrangements for classifying or describing different types of parks. Helburn proposes that parks may be arranged along a "wildness continuum" ranging from the largely artificial, often small, highly developed and heavily used parks typical of urban areas to the large, remote, undeveloped, "wilderness" parks in more rural locations where use is more dispersed [64]. Intrinsic to this continuum of "naturalness" is the influence of distance and accessibility. As distance from concentrations of human activities and habitations increases, so does the expression of "natural" processes or wildness. While pockets of "nature" exist in the form of gardens, parks, and vacant lots even in the midst of the metropolis, they cannot maintain the ecological diversity or natural balance possible in more extensive, rural locations. Further, it is largely the very remoteness and inaccessibility of existing "wilderness" areas that have preserved them in a "natural" or "wild" state. Helburn also suggests that people seek to increase their contact with nature and tend to move along the continuum toward a more "wild" setting when choosing an outdoor recreation location. He exemplifies the incremental or gradational character of this movement by noting that an inner city resident will find the landscape and animals of an agricultural scene quite as exotic and interesting as the suburban dweller might regard a national or state park with herds of deer and an occasional coyote. Other researchers have noted pervasive preferences for more natural elements in all types of settings and suggest this may be referable to biological or

genetic "programming" established through the evolutionary process [72]. If the desire for contact with nature is an incremental one, then it is reasonable to expect that the numbers and diversity of recreation area users will decrease as areas become more "wild," more remote and inaccessible.

Lee defines a hierarchy of neighborhood, district, regional, and remote outdoor places which is also based on ideas of accessibility or location and users' expectations [73]. He characterizes "neighborhood" parks as set in residential areas with primarily local users who consider the park part of their everyday space to be governed by local social norms. "District" and "regional" outdoor places attract users from more than one neighborhood by drawing people from a wider surrounding area, and are defined by non-local visitors in terms of more formalized "rules of conduct" associated with the specific attractions present at the site (museums, picnic grounds, nature areas, and so forth). However, these "district" and "regional" parks may also be used by local residents who view and treat the site as part of their everyday territory to be governed by local groups' activities and definitions. Finally, remote recreation areas draw not only visitors from nearby areas, but also from distant areas, due to their unique features or widely known "reputation." The social definition of these places, even more than for district or regional parks, is highly dependent on the activities and attractions to be found there and/or may reflect the particular social definitions and expectations of the dominant user group.

Clark and Stankey present a more formal investigative framework called "the recreation opportunity spectrum" [74]. They identify the position of an individual park, or "recreation opportunity," along a

continuum by identifying the specific

combination of physical, biological, social, and managerial conditions that give value to a place. Thus, an opportunity includes qualities provided by nature (vegetation, landscape, topography, scenery), qualities associated with recreational use (levels and types of use), and conditions provided by management (developments, roads, regulations) [74, p.1].

The six factors they use for classification are:

- (1) Access -- including both access to the site and within it as well as site location relative to potential users;
- (2) Nonrecreational land uses -- other resource uses within and around the park which may complement or conflict with recreational use;
- (3) Onsite management -- the extent, complexity, apparentness, and nature of site modification and facility development;
- (4) Social interaction -- the number of visitors, their frequency of contact, and the types of contacts and the expectations that visitors hold regarding the social milieu of the park;
- (5) Acceptability of visitor impacts -- essentially a value judgement based on objective measures of impact magnitude (vegetation damage, noise levels, vandalism damage, etc.) and subjective evaluation of their importance;
- (6) Acceptable regimentation -- management control over visitor behavior, ranging from subtle elements of site design and information programs to official law enforcement activities [74, pp. 8-14].

Table 2.1 combines these three conceptualizations of the park environment "continuum" in simplified form. Thus, a neighborhood "tot lot" would have a low "wildness" content, high levels of accessibility, site development, interaction among users, user impacts, and regimentation. Wilderness areas, located at the opposite end of the

TABLE 2.1

PHYSICAL AND MANAGERIAL ASPECTS OF PARK SETTINGS: THE RECREATION OPPORTUNITY SPECTRUM

Characteristics	Park Hierarchy			
	Neighborhood	District	Regional	Remote
Park size	Small	Medium to large	Medium to large	Large
Wildness	Least "wild"	May contain some natural areas as well as more developed features	Usually contains undeveloped areas of natural vegetation	Most "wild"
Accessibility	Easy access both to and within park, by foot or auto, short travel time home to park for most users	Usually easily accessible by car or other transit, most users travel less than two hours to reach park	Often no regular regular mass transit service but accessible by auto, visitors may travel several hours to reach park	Access both to and within park requires considerable effort, often requires long travel times and foot or horseback travel
Nonrecreational land use	Usually located in urban and suburban residential or commercial areas	Most often located in urban or suburban residential settings	Except for major city parks such as Golden Gate in San Francisco most are in suburban and rural settings	Usually in remote, often low intensity agricultural settings such as timber or grazing lands
Onsite management	Often highly developed with many site modifications and obvious management activities	Usually considerable site modification is apparent, overnight accommodations seldom provided	Development may be concentrated in particular areas of park, rural parks often have camping	Site is primarily in natural state with limited evidence of human activities

TABLE 2.1 (Cont.)

Characteristics	Park Hierarchy			
	Neighborhood	District	Regional	Remote
Social interaction	High intensity use, many users and many contacts among users	Use intensity varies among and within parks but usually fairly heavily used, especially on week-ends and holidays	Use tends to be more dispersed both temporally and spatially than in neighborhood or district parks	Low intensity use, users are dispersed through park with few contacts among user groups
Acceptability of visitor impacts	Site is managed for visitor use, evidence of use is expected	Types and acceptability of impacts vary with park agency policy, most managed for recreation rather than resource protection	Types and acceptability of impacts vary with park agency policy, often natural resource protection is important goal	Visitor impact is minimized, site is managed primarily for resource protection or production as in multiple use policy agencies
Acceptable regimentation	Visitor behavior is subject to considerable management control through site design, supervision,	Often park entry is controlled and users are supervised in at least some portions of the park	Park entry may be controlled, direct supervision of user behavior may be limited to certain park areas	Low levels of direct management control, few artificial barriers to movement and little contact between park personnel and users

SOURCES: N. Helburn, "The Wildness Continuum," Prof. Geog. 29(4):333-337, 1977.
R.G. Lee, "The Social Definition of Outdoor Recreation Places," in Burch, Cheek, and Taylor, Social Behavior, Natural Resources, and the Environment (Harper and Row, N.Y., 1972), pp.68-84.
R.N. Clark and G.H. Stankey, The Recreation Opportunity Spectrum (U.S.F.S., Pac.N.W. For. and Range Expt. St., General Technical Report PNW-98, Portland, Or., 1979).

spectrum are the most "wild," with low levels of accessibility, site development, and so forth. In reality, the boundaries between neighborhood, district, regional, and remote parks are not distinct and the factors in Clark and Stankey's "opportunity spectrum" do not vary in unison. However, this conceptualization does provide a general framework illustrating the variation in operational environments of parks.

Perception and Behavior in Recreation Settings

Both Fridgen and Lee suggest that behavior in park settings can only be understood by recognizing the socially assigned meaning or "implicit theories of environment" that recreation participants assign to these settings [70,73]. Fridgen states:

An implicit theory of environment proposes that an individual develops a theory of what an environment is like and what goes on in the environment. It is suggested that environments are seen as having sets of features that go together. . . . People use these theories to help understand an environment and predict what the setting will be like [70, pp.376-377].

"Implicit theories" differ for both park type and user group. Both Fridgen and Lee also note differences, as suggested by Clark and Stankey, in the expectations and social meaning assigned to parks at different places along the "recreation opportunity spectrum" [70,73,74]. The following sections review studies of park user perception and behavior in different types of settings. Two issues are addressed: (1) what the relationships appear to be among operational, perceptual and behavioral environments in each setting, and (2) how implicit theories of environment vary among groups and sites.

The attitudes, values, and preferences of wilderness users have been explored in several studies and are found to be fairly consistent across both areas and user groups. Most users are found to value highly

the environmental characteristics that distinguish wilderness areas from other recreation settings -- the relatively untouched natural landscape, the opportunity for solitude (with one's traveling companions), the exercise of self-reliance, camping, and survival skills, and the "escape" from urban lifestyles and landscapes [54,67,75,76,77,78]. Most wilderness visitors expect to meet few other parties during their trip and indicate that meeting or seeing evidence of many others decreases their enjoyment and satisfaction with their recreation experience [54,75,76,77]. They prefer only such site modification as necessary to protect resource quality and reject interpretive signs, motorized transport on site, and the idea of direct use restrictions other than party size limitations [75, pp.67-68; 77].

Stankey reports differential perceptions of crowding among users and wilderness areas, but finds evidence of avoidance behavior in only about one third of those reporting feeling crowded [77]. Lee also finds that wilderness users' opinions regarding the degree of crowding at a site are not necessarily reflected in their behavior at that site [79]. He attributes the lack of observable differences in withdrawal behavior between those who report feeling crowded and those who do not to the shared norms among users expressed by largely unconscious, "nonsymbolic" interaction. These interactions, he maintains, are the result of behavioral expectations that wilderness visitors take for granted, assuming that others in the setting will behave similarly and predictably. He concludes "that wilderness use is a very orderly social process with a low level of conscious accounting for interpersonal behavior" [79, p.16]. Further, his findings point out the need for careful interpretation of the behavioral implications of expressed attitudes and preferences.

Studies of more developed, but still largely rural, recreation opportunities have often focused on campers and campgrounds. Like wilderness users, campers appear to hold particular "images" of desirable recreation environments. Studies indicate that campground selection is based on preferences for certain levels of site development and social interaction [61, 80,81,82]. These preferences vary as widely as the characteristics of campgrounds do, and people appear to practice "self-sorting" behavior to achieve a satisfactory fit between their preferences and their camping environment.

Clark, Hendee, and Campbell find that most campers using a large, highly developed campground express nature-oriented motivations for camping (to experience "solitude," "unspoiled beauty," and "to teach children about the outdoors," for example) but find the context of a fairly densely populated, developed campground quite suitable for pursuit of these goals. They conclude that "'wilderness' is apparently in the eye of the beholder" [80, p.148].

Campers, like wilderness users, appear to vary in their evaluations of the same operational environment. Foster and Jackson find, for example, that campers "varied in their evaluations of both distance and screening between theirs and the adjacent site, and it was these perceptions, rather than objectively measured distance and amounts of screening, which were associated with variations in campers' satisfaction" [82, p.305].

Campground visitors accept more social interaction and higher levels of regimentation than wilderness users do. This may be partly attributable to the greater diversity and more urban values of most campers as compared to the majority of backcountry users. Foster and

Jackson report campers in structured campgrounds, where campsites and the boundaries between them are clearly demarcated, report higher levels of satisfaction than those in open, unstructured campgrounds. This finding implies that social norms governing parties' spacing and interaction need more visible reinforcement in these settings than in wilderness areas [82]. Though campers appear to share similar values and most perceive the campground to be a safe and orderly environment, even in the face of evidence to the contrary, they tend to expect formal, rather than informal, social controls to maintain that order [80,83,84]. Campground visitors expect, and most are not averse, to seeing and hearing other campers during their stay. Most do not object to rules and regulations governing behavior in campgrounds, although the rules may not be obeyed if they are perceived to interfere with a camper's recreation experience [80]. Thus, the available evidence indicates that though both campers and backcountry visitors express similar appreciation of the natural environment and outdoor experiences, their expectations of and responses to their respective operational environments differ. Both groups appear to seek out park settings that are congruent with their expectations and preferences.

The diversity of urban recreation settings and users makes generalizations regarding users' perceptions and behavior more difficult than for more rural recreation settings. In addition to identifying the "personal" nature of neighborhood park social space, as distinct from the more "public" aspect of social interaction operating in larger district, regional, or remote parks, Lee points out sociocultural differences which further influence the social meaning of recreation spaces [33]. His observations are related to Stokols' work on perceptions

and behavior. Stokols postulates that social environments may be either "primary," that is characterized by continuous, personal interactions as in most private settings, or secondary, characterized by transitory, anonymous interaction as in most public settings [85]. "Propertyless" classes, Lee maintains, occupy a locally bounded, shared territory where public space is treated much like private or "primary" space and is perceived as "belonging" to local residents. Property-owning higher status classes, on the other hand, occupy selective space where private property boundaries form significant spatial divisions and public space is perceived as anonymous, "secondary" space, belonging to no one in particular and governed by formalized rules of behavior particular to the "kind" of place it is perceived to be. When these different groups use the same space, as in a district or regional park, they each apply their own definitions to the setting. Lee observes:

Most visitors to district parks on weekends and holidays are picnickers who select a micro-space in a pleasant setting for their activities. Their sense of belonging is linked to the possession of space rather than to intimate knowledge of persons and control of a larger territory. However, low income picnickers, usually ethnic minorities, show a greater tendency to gather in larger groups and define a common territory. Modes of spatial behavior typical of the neighborhood park are transferred to the district park and are used to identify it as a place where others of similar socio-cultural background are welcome [73, p.80].

Lee's generalizations are supported by several other studies of behavior and perception in urban neighborhood, district, and regional parks. In some urban areas, particular parks or areas within parks become the nearly exclusive territory of certain groups and are generally avoided by others [86,87,88,89]. Other evidence supports the view that some urban parks are shared territory, governed by shared social norms and characterized by high levels of interaction among users, while others

function as more formal public spaces governed by formalized behavior norms and fairly low interaction among different participant groups [70,90]. Cordell notes that public park space in middle and upper income areas is usually less intensively used than that in low income areas due to the more affluent residents' substitution of preferred private open space settings (yards and private clubs, for example) for many recreational activities [91].

Summary

In summary, people's perceptions of and behavior in outdoor recreation settings appears to be governed by "images" or "implicit theories of environment" particular to different kinds of park settings. The differentiation of these setting "types" depends upon identifiable combinations of physical and social site characteristics. The "recreation opportunity spectrum" concept provides a useful categorization of these characteristics. In settings serving very homogeneous user groups, such as wilderness areas and inner city neighborhood parks, behavior and social interaction tends to be governed by informal social norms and users tend to hold similar implicit theories or images of the environment. Settings with more diverse user groups, on the other hand, may be defined and perceived differently by different users and thus depend on more formal social controls to mediate behavior. Table 2.2 illustrates, in simplified form, how park images and behavior may vary among parks at different positions on the "recreation opportunity spectrum."

Perceptions of recreation environments appear to be influenced as much by expectations of what certain "types" of park settings should be

TABLE 2.2

THE PERCEPTUAL AND BEHAVIORAL ENVIRONMENTS OF PARK SETTINGS

Characteristics	Park Hierarchy			
	Neighborhood	District	Regional	Remote
User homogeneity	Socially homogeneous most users live near the park.	Usually very socially heterogeneous, both local and non-local users.	Both local and non-local users, more social homogeneity in rural locations.	Socially homogeneous, most users are well-educated and do not live nearby.
Park behavior norms	Often subject to local neighborhood's behavior norms. Users may consider the park a personal space and share a sense of ownership.	Usually considered a public setting, subject to the kinds of behavior norms characteristic of the "kind" of place it is.	As with district parks, considered a public setting by most users. Subgroups may share different behavioral expectations.	A particular type of public environment, users tend to share an "outdoor ethic" where the natural environment has symbolic value.
Social controls	Informal, based on personal knowledge of other users.	Formal, exercised by highly visible external authority.	Formal, exercised by external authority.	Informal, based on shared values.
Interaction among user groups	Expected, park may be a meeting place.	Usually limited to superficial contact and symbolic gestures.	May be limited to symbolic gestures but temporary "communities" may occur.	Not desired by users, expected to occur only in park boundary and entry areas.

SOURCES: R.G. Lee, "The Social Definition of Outdoor Recreation Places," in Burch, Cheek, and Taylor, Social Behavior, Natural Resources, and the Environment (Harper and Row, N.Y., 1972), pp. 68-84.

R.N. Clark, J.C. Hendee, and F. Campbell, "Values, Behavior, and Conflict in Modern Camping Culture," Journal of Leisure Research 3(3):143-159, 1971.

like (implicit theories of park environments) as by the objective, measurable characteristics of a particular park site. Recreation behavior appears to be based on both conscious and unconscious aspects of individuals' perceptual environments. Attitudes and preferences, alone, do not adequately predict either an individual's choice of a particular park site or on-site behavior. Aspects of social interaction or the "social climate" of parks emerges as an important, if often unarticulated, element determining the social meanings assigned to different recreation environments.

Crime and Conflict in Park Settings

Geography of Crime and Perceptions of Crime

Research in the geography of crime, in general, tends to focus on the location and context of criminal activity [7,51,92,93,94,95,96]. This work often follows the human ecology tradition of identifying the environmental correlates of high crime rates [19,92]. Areas that are particularly troubled by crime are often those suffering from a host of other social problems [7;51, pp.156-179;86;96;97]. Some studies concentrate on particular types of criminal or deviant behavior while others investigate a particular location or type of setting [7,pp.6-10; 51, pp.249-258;86;97;98;99;100].

Geographers and researchers from other disciplines have also addressed how people evaluate their surroundings in terms of the threat of being victimized [66,86,101,102,103]. Studies of the fear of crime and behavioral response to the threat of crime are similar to those of perceptions and responses to natural hazards. Research reveals that people's safety related perceptions and behavior vary widely and often

bear little relation to empirically determined estimates of their likelihood of being the victim of either natural catastrophe or criminal activity. In both cases, individuals' personal characteristics such as age, gender, and attitudes, and the opinions of their peers seem to influence their evaluations of personal risk more than the actual frequency of the threatening event [3, pp.140-143;86;101;104;105;106;107]. For example, Dubow, McCabe, and Kaplan remark that females and older people appear to be disproportionately concerned about being victimized since police records indicate young men are the most frequent crime victims as well as offenders [119]. Several possible explanations of these gender and age related differences have been advanced. Females and older people may feel more vulnerable than young males due to general socialization and perceptions about their ability to defend themselves and/or the more severe potential effects of an attack. Media reports of crimes against women may also produce a climate of "vicarious victimization" that sensitizes females to the possibility of being a crime target [138]. It may also be that cultural expectations allow females, more than males, to admit to being afraid. Further, females and the elderly may be statistically less likely than young males to be victimized due to their greater tendency to engage in protective and/or avoidance behavior, thus presenting fewer potential female and elderly targets for attack.

Overall, officially recorded crime rates and public concerns regarding personal safety from criminal victimization have steadily increased over time [7, p.2; 108, pp.16-18;109;110;111;112;113;115]. Both park managers and park users are concerned with the rising crime rates, increased use of park areas, social conflicts, and resource

constraints arising in public parks during the last two decades. Conflicts occur among divergent groups of park users and between park users and management. Some of these conflicts are translated into damage of park facilities through vandalism, overuse, or inappropriate use. Criminal activities in park settings are a source of concern. While users commonly associate park crime problems with urban parks, personnel from parks at every position along the "recreation opportunity spectrum" report increasing levels of criminal and other depreciative behavior in their areas. Although there is general consensus that crime and conflict in park settings is an increasingly serious problem, neither the extent nor the impact of these problems has been fully documented.

Identifying and Measuring Depreciative Behavior in Parks

Objective measures of crime and conflict are often scarce and unreliable. The National Park Service has one of the best systems for documenting enforcement actions in their jurisdictions. They report 8,241 felony crimes (homicide, rape, robbery, assaults, and theft) in 1978 for an overall crime rate of 2.9 per 100,000 user-days [16]. Of these, ten percent (858) were violent crimes, while the rest were property offenses. Further, 66 percent of the recorded offenses, 95 percent of all arrests, and 80 percent of all citations occurred within twenty-eight parks, or less than ten percent of the parks in the system. The National Capital Region in Washington D.C., alone, accounts for fifteen percent of the total offenses, system-wide, and 69 percent of all arrests. The top nine National Park units in terms of reported felonies are: National Capital Region, Yosemite, Golden Gate National Recreation Area, Lake Mead, Yellowstone, Grand Canyon, Great Smokey

Mountains, Olympic, and Gateway East. For these nine parks, the average crime rate was 7.9 felonies per 100,000 user-days in 1978.

The record of Part II, or misdemeanor crimes, in National Park areas shows a similar pattern. Of the 72,494 reported in 1978, 14.5 percent were in the National Capital Region and an additional 36 percent of the total misdemeanor offenses were reported by just seven other parks: Shenandoah, Lake Mead, Gateway East, Great Smokey Mountains, Sequoia-Kings Canyon, Rocky Mountain, and Golden Gate National Recreation Area [16].

Thus, there appear to be more reported crimes in National Park units characterized by high visitation and accessibility to a wide variety of visitors either through location, such as Gateway East or Golden Gate National Recreation Area, or reputation as a "must see" tourist destination such as Yellowstone, Grand Canyon, or the Great Smokey Mountains, than in more remote or less "popular" units. In Yosemite National Park alone eight negligent homicides, twenty-one rapes, twenty-three assaults, thirty-three auto thefts, 311 burglaries, and 1,600 thefts were reported in 1978-79 [116,p.11]. Still, considering the vast acres of land and millions of people visiting these parks, it cannot be stated that crime is dangerously out of control. If the above crime figures for Yosemite, for example, are calculated against the estimated 20,000 people in the park on a busy weekend the crime rate is only about 0.5 per 100,000 people.

Law Enforcement Assistance Administration (LEAA) victimization surveys in twenty-six cities indicate that over half of all personal victimizations (rape, robbery, assault, and theft) occur in the public spaces of streets, parks, fields, playgrounds, school grounds, or parking lots [117, p.16]. The proportion of these crimes occurring in

parks appears to be quite low. Georges and Kirksey's study of Dallas crime locations finds only 0.9 percent of all robberies and none of the reported rapes occurred in parks during 1974-75 [7, p.7]. Rasmussen reports that crimes in parks comprise only four percent of all reported crimes in Chicago and that the more heavily used parks report the most crimes [118]. Malt Associates' detailed analysis of crime in urban parks reports:

In 1970 five cities had a total of 7,853 criminal acts in neighborhood areas of which 2,633 were on streets surrounding the parks and only 108 on the twenty parks themselves. On the basis of reported crime, parks appear to be much safer than their surrounding areas [119,p.iv].

Of these 108 felony crimes, twenty-seven occurred in fifteen parks smaller than twenty acres and eighty-one were reported in five urban parks larger than twenty acres. Park crime constituted 1.4 percent of all crimes in the parks' service areas and 3.9 percent of all outdoor crime locations in the service areas. Assault, rape and murder constituted 17.6 percent of the park crimes (19 incidents), 34.3 percent were robberies (38 incidents) and the remaining 48.2 percent (52 incidents) were larcenies. In each case, the park crimes contributed less than two percent of the offenses occurring outdoors in that category for the service areas. Malt Associates note that more robberies and larcenies occur in parks with recreation centers and swimming pools than those without these facilities but they attribute this, at least partially, to the availability of park personnel in these locations to receive reports of crimes [119].

Analysis of official records suggests that parks, even in urban areas, are relatively safe in terms of personal victimization; risk of violent attack, such as rapes and muggings, appear to be greater in many

other settings. Thefts seem to be the primary "serious" crime problem in parks. These data, however, cannot be accepted at face value. Problems of data bias through incomplete or under-reporting of some crimes, different enforcement and reporting practices among agencies, overlapping jurisdictions and enforcement officer discretion, are exacerbated in recreation settings. Law enforcement in Federal and State parks ranges from the specially trained, single purpose park police in some urban units of the National Park Service, to Park and Forest Rangers or Conservation Officers having varying amounts of enforcement training and responsibilities, and equally varying degrees of enthusiasm about performing enforcement duties. Park law enforcement in local jurisdictions is even more variable. Some large urban and suburban park systems have their own park police or rangers. Most local parks, however, depend on county sheriffs or city police departments. The number of officers, their legal powers, frequency and methods of patrol, and enforcement policies differ from park to park and year to year even within the same park system [120].

The number of crimes recorded by park agencies is probably much below the actual number of incidents for several reasons. First, park patrol activities are complicated by problems of on-site accessibility, sometimes large distances between park units in a system, officers often having interpretive and/or maintenance duties in addition to enforcement, and, often, inadequate equipment and too few qualified personnel [119, pp.42-43]. Second, strict enforcement of minor offenses is seldom practiced since park agencies are in the business of providing pleasurable experiences for park visitors. Visitors, in turn, do not usually expect a highly regimented and strictly supervised environment. Consequently,

minor offenses often draw only warnings from officers and usually go unrecorded. A third and very significant aspect of under-reporting is the morass of overlapping jurisdictions typical of many park settings [9,pp.10-31; 121]. Local, state, and federal officers may all have jurisdiction within a single park. Indiana Dunes National Lakeshore's park rangers, for example, share enforcement responsibilities with nine other agencies. As a result, crimes that occur on park land may never be recorded in park agency records, particularly if they are serious crimes requiring investigations more appropriately carried out by other agencies. Further, park records may include incidents that did not actually occur within the park when park enforcement officers intercede in events outside park boundaries. The jurisdiction problem is related to the fourth component of park crime under-reporting -- park users who do not know how to report a crime, even if they are inclined to do so. There may be no park personnel on site and visitors may not know how to contact park enforcement officers [84,122]. They may not believe park personnel have the legal powers to do anything about their problem. Further, other enforcement agency personnel (local police, for example) may be equally unwilling to recognize park rangers or police as qualified enforcement officers and be reluctant to cooperate fully. In short, park enforcement records probably contain only a portion of the violations that occur within park boundaries and one agency's records are probably not strictly comparable to another's.

Year-to-year comparison of enforcement records, even within the same agency, is problematic. For example, the National Park Service reports a 29.4 percent decrease in homicides and a 51.7 percent increase

in rapes between 1977 and 1978. These rates, however, are based on absolute changes of five and thirty-one incidents, respectively. While these figures are significant to the people involved in these crimes, they are not adequate to establish crime trends on a national scale. Moreover, changes in park boundaries and enforcement practices can dramatically influence year to year crime reports [16,120].

Comparing park crime to crimes in other settings is also difficult. The population at risk is not stable either temporally or spatially. Crime rates based on park user-days are not comparable to FBI or LEAA crime rates based on resident populations. Even evaluation of crime in urban neighborhood parks, presumably used by an identifiable surrounding resident population, is difficult. Few urban park agencies collect adequate or appropriate data to establish how many people use the park and for how long. There is no way of evaluating whether low numbers of incidents reflect low risk of victimization or simply levels or patterns of use that provide few potential crime targets [119,pp.22-23]. Similarly, property crimes such as burglary, vandalism, and theft, are most appropriately evaluated in terms of potential targets. Burglary rates, for example, are a function of the number and vulnerability of park structures as much as potential criminal populations and enforcement practices [123,124].

Although even cautious evaluation of the available data suggests that risks of criminal victimization are fairly low in parks, compared to other settings, these data are not adequate to establish which types of park settings may be more or less dangerous than others. More crimes are reported in large and well used parks but it is not clear whether

this is a function of the setting or simply of larger numbers of people providing both more potential criminals and targets. Malt Associates' study of crime in urban parks reports:

The largest amount of crime was found [in] those parks which (1) represented the only significant recreation opportunity in a locality and (2) where ethnic, racial or class changes were occurring in the serviced populations. These parks also had the densest service populations and generally the highest crime rates among the study areas [119,p.101].

Thus, the one generalization that might comfortably be asserted is that parks located in generally high stress environments are likely to be impacted by antisocial behavior more than those in less stressful settings.

While park users, justifiably or not, are typically concerned most about personal victimization, park personnel are most alarmed about escalating rates of park property damage and theft. The National Park Service reports 7,734 vandalism incidents in its units in 1978 for a conservatively estimated dollar loss of \$284,095 with repair costs in individual parks as high as \$20,472 [16,120]. The U.S. Forest Service estimated their 1974 nationwide expenses attributable to vandalism to be \$7.5 million.

Several studies have solicited park managers' and field personnel's opinions about problems in their parks. Driessen interviewed Forest Service personnel (district rangers, foresters, recreation technicians, recreation staff officers, and landscape architects) in ten Districts and reports:

Vandalism was found to be the number one reported management problem associated with facilities and equipment. What is striking about this finding is the fact that this problem stands far above the others [14,p.v].

Driessen finds that perception of problems does not appear to vary with respondents' job experience, length of the recreation season, extent of

visitor use (except in Districts with more than a million visitor-use days, where offroad vehicle control is perceived to be more of a problem than elsewhere), distance of the site from large cities, or the kinds (local versus nonlocal) of visitors at the site.

The Comptroller General's survey of 1,216 Federal agency park law enforcement officers found that 61 percent perceived crime to be a serious problem in their area. The crimes which were most often reported to be substantial to very great problems were (in rank order):

1. Vandalism of Government property
2. Destruction of natural and historic resources
3. Drunkenness and disorderly conduct
4. Game law violations
5. Drugs or narcotic violations
6. Vandalism of private property
7. Disturbing the peace
8. Unauthorized possession of weapons
9. Larceny
10. Boating violations [9,p.7].

The ranking of felony crimes perceived to be moderate to great problems is: burglary (38 percent), larceny (36 percent), assault (30 percent), robbery (25 percent), auto theft (18 percent), rape (six percent), and murder (four percent).

Clark, Hendee, and Campbell's investigation of campground managers' and users' perceptions reveals that most managers rate litter (90.8 percent) and vandalism (89.6 percent) to be moderate to major problems in their campgrounds, followed by rule violations (88.5 percent), nuisance behaviors (88.1 percent), theft (84.7 percent), excessive noise (81.8 percent), and trouble in general (76.1 percent). Managers also perceive problem behaviors to be much more prevalent and serious than do campers [80, p.152].

No equally detailed information about urban park personnel's perceptions of park behavior problems is available. Dunn reports that crime and vandalism emerged as the first priority concern of an advisory panel of recreation and park educators, practitioners, and researchers charged with pinpointing key research needs to support urban recreation policy decisions [15, p.42]. Several other sources mention the importance and impact of these problems in municipal park operations [18,118, 125,126].

Many behavior problems in park settings do not qualify as serious crimes or result in significant property damage. These fall into the "conflict" category. Rule violations and nuisance behaviors such as excessive noise or unleashed pets are frequently classified as "depreciative behavior" and may be considered conflicts both among users and between park users and management. Definitions of objectionable or depreciative behavior vary among user groups, between users and managers, and among park sites. In some cases, park rules define unacceptable behaviors, such as the common "quiet after 11 p.m." campground rule, or the "no alcoholic beverages" regulation in many parks. In others, conflicts may arise because of different values rather than official prohibitions. Wilderness users, for example, may object to other users bringing radios or horses into the backcountry because it violates their "wilderness-purist" ideas about appropriate use of the resource. Similarly, some beach users may object to others' nude sunbathing and seek official injunctions against it. In urbanized areas, surrounding residents may object to the appearance of the park or its users and the behavior of park users.

In Clark, Hendee, and Campbell's campground behavior study, nearly half of all the depreciative incidents observed were classified as "nuisance acts" (excessive noise, health hazards, violations of privacy, and pets off leashes which, alone, accounted for about eighty percent of the "nuisances" and almost forty percent of the total observations). Of the law violations (36.9 percent of all observed depreciative acts), 46.8 percent were violations of campground rules (17 percent of all observations) and 29.2 percent were of traffic rules (11 percent of the total) [84, p.4]. There are few, if any, other reports currently available providing quantified measures of the whole range of depreciative behaviors in a park setting. Enerva's case study of a troubled National Forest campground in southern California provides insight and detailed information but no baseline data [127]. Other studies mention problems with drugs or alcohol use, teenage "gangs," or deviant subcultural groups (homosexuals or other "counter-culture" groups), but provide few quantifiable measures of frequency, severity, or impact [89,119,128,129]. However, this is not surprising since conflict is largely a subjective event. Rule violations can be enumerated, but, like more serious crime incidents, recording of violations requires that they be witnessed and reported. Further, unlike more serious crimes, the number of rule violations is related to the number and nature of rules in each setting and these vary widely. For example, a park that prohibits alcohol will likely show many more alcohol-related offenses than in one where only public drunkenness or underage possession is prohibited.

Objective measurement or evaluation of the operational environment of a park as it relates to crime and conflict is difficult. Parks at all levels of the opportunity spectrum have problems with both controlling

and measuring depreciative behavior. Serious crime seems relatively infrequent, compared to other settings. Generally speaking, it appears that large, high use, easily accessible parks report the most crime incidents, although this may be a function of simply more people present rather than indicative of higher individual risks of victimization. Agency records of crime and conflict are usually not compatible across agencies or time, and are probably not representative of the actual nature, frequency, severity, and spatial distribution of park behavior problems. Among criminal activities and rule violations, theft, vandalism, and litter seem to be the most pervasive. Conflict and crowding are largely subjective judgements and thus depend on the particular combination of site, user, and management characteristics of individual settings. Intuitively, we might expect the most conflict in settings where users and managers, or different user groups, have different values, goals, or beliefs. It is likely, then, that heavily used sites drawing diverse users will exhibit the highest conflict, crime, and dissatisfaction levels.

Regardless of how reliable objective measures of park crime and conflict may be, or how safe these measures may indicate park environments are, it is people's subjective evaluations of appropriate behavior within the park that determine, to a large extent, whether the setting will facilitate or discourage antisocial behavior and conflict. Thus, the social meaning or "implicit theories of environment" associated with different park settings by different user groups is a pivotal factor which both contributes to and is conditioned by levels of crime and conflict in these settings.

Crime and Conflict in Rural Parks: Problems and Perceptions

Studies suggest that people visiting remote, rural parks share, to some extent, a desire for contact with the natural environment and, generally, the expectation that others in the setting will behave in a predictable and acceptable manner. This expectation tends to be reinforced by "self-sorting" behavior which matches visitors to the specific kinds of sites, in terms of both physical and social qualities, that they prefer. Lee remarks:

Definitions of place in remote outdoor settings are usually determined by the kind of attraction present and the visitors drawn to it. Individuals and groups have greater control over idiosyncratic definitions in remote settings than in any of the other outdoor places. Wilderness backpackers, rock climbers, and trailer campers are a few of the many kinds of users whose orientation toward outdoor spaces is typified by possession, selective organization, and formal social control. . . .

Self-segregation on the basis of counterculture lifestyle is a new form of use engaged in primarily by highly mobile youth from middle or high income families, and most fully expressed in remote places. . . . Outdoor space is perceived as belonging to everyone, and thus may legitimately be used for many activities usually considered illegal or immoral. Nude bathing, marijuana smoking, open sexual enjoyment, and loud rock music are a few of the many activities that can be maintained only in selective territories where surveillance by law enforcement officials is difficult or where the number of participants is too large to prevent effective social control [73, p.81].

This latter type of "deviant" place definition causes problems when it impinges on users who do not share the subgroup's values or when the subgroup is unable to maintain adequate self controls.

Some conflicts are large and dramatic such as the American Indian occupation of Alcatraz Island which is part of Golden Gate National Recreation Area, or the 1970 Yosemite Park riot [12, p.156]. Enerva documents smaller scale but equally alarming problems arising when a fairly isolated primitive campground acquires a deviant reputation [127].

He found that, at first, informal channels of communication established the location as a place where counterculture people could gather to enjoy the outdoors together and engage in various non-sanctioned activities without being "hassled." Eventually the informal reputation of the campground as a "free" place attracted people who, in the absence of either formal or effective informal social controls, were sometimes violent and often destructive. Crime victims, often themselves antagonistic to police, frequently did not file crime reports so the problems were not "officially" recognized until they became quite severe and deviant users had developed a strongly territorial view of the area. Subsequent enforcement efforts have had some limited success but the area retained a reputation that discouraged many people from using the site. Enerva reports of his participant observation activities:

Black Canyon is everything its infamous reputation portrays it to be and more. From the small amount of time I spent at the campground discussing and observing, I saw most every type of criminal activity that could transpire there. My personal experiences include my life being seriously threatened; attempted theft of my camping equipment; harassment of myself and friends; challenges to fight; vandalism; damage to my truck in excess of \$1100; alcohol or drugs offered for sale or given to me; and alleged stolen property, including a motorcycle, offered to me for sale. This was not the full extent of the extraordinary experiences I encountered. Those that I had the good fortune of not experiencing, other visitors and campers would poignantly relate the ugly details of their past experiences. During my discussions with visitors and campers only a handful stated that they had not observed or had been victims of a crime [127, p.18].

He estimates that eighty percent of the Black Canyon users belong to one of two groups -- the "longhairs" or counterculture people and servicemen -- and members of these two groups cause ninety percent of the problems. Both groups appear to be attracted to the site for its natural features, its reputation as a "party" location, and the lack of official supervision and controls. The servicemen, he remarks, appear to be

particularly drawn by this last factor and generally "do whatever they want to because they realize they can get away with it (and they do)" [127, p.21]. Incidents of rape, irresponsible use of firearms, and drug sales are observed in or attributed to this group. He charges that problems caused by both "deviant" groups occur most often when individuals are under the influence of alcohol or other drugs. Further, the values and norms of both groups are not consistent with larger societal views of appropriate, responsible behavior. Thus, the crime and damage problems they cause will probably require stringent formal controls since they are largely unresponsive to acceptable informal social controls.

Most accounts of conflict in rural parks are less dramatic than Enerva's but share some of the same themes. Goodrich's discussion of the problems arising from nude bathing also mentions the compounding effect when a location gains a reputation as a setting for unconventional behavior. Not only are new participants attracted, but curious and sometimes seriously deviant individuals are also drawn to the site. Consequently, problems of resource damage from crowding, harassment, and serious antisocial behaviors follow the originally rather innocuous activity [10]. She reports, however, that once the initial furor is allowed to die down and mechanisms are developed that assist informal social controls, combined with visible formal controls, people appear to become accustomed to the new social definition of the nude beach, participants' behavior becomes predictable and therefore no longer threatening, and conflict problems decrease considerably.

Two other studies that touch on the expression of subcultural values in rural recreation areas are Scott's study of wilderness users' attitudes and White, Wall, and Priddle's investigation of "rowdiness" in

Canadian Provincial Parks. Scott finds that backcountry visitors can be categorized according to their scores on an "unconventional behavior" factor that includes attitudes toward nudity, smoking marijuana, and "hippies" in wilderness areas. Young people camping with friends expressed much less disapproval than did older, family group, visitors [130]. White, Wall, and Priddle report that some Provincial Parks appear to attract groups of young male "party" campers who generally annoy other campers by their loud, disorderly behavior. They remark that only some, not all, parks have this problem, primarily those in southern Ontario within a day's drive of urban areas. Further, the "problem parks" shift somewhat year to year, suggesting that informal communication establishes a preferred destination for "party campers" and, perhaps, that when managers in one park institute control measures the group moves to another park [131].

Other sources of conflict in rural parks include disagreements over appropriate modes of wildland travel. For example, hikers dislike sharing areas with horsebackriders or motorcyclists, canoeists do not like to encounter motorboats, and cross country skiers want snowmobiles banned in parks [54,75,77,132]. Interestingly, in many cases the subgroup engaging in the "objectionable" behavior does not reciprocate the other groups' objections and may express many of the same recreation goals and preferences as the complaining group. Other kinds of conflict and rule violations occur when a park is newly established or undergoes substantial design or management changes. In these cases, local residents and longtime users may find that their "traditional" patterns of access and use are disrupted and some activities prohibited. Responses range from organized group protest, lawsuits, and political pressure to

persistent removal of access barriers, vandalism, and blatant disregard of park rules [133,134].

Clark, Hendee, and Campbell's study of campers' perceptions of behavior problems in campgrounds finds that most campers do not perceive theft, noise, crowding, littering, rule violations, vandalism, or other depreciative behaviors to be major problems in campgrounds [80]. In terms of perceived differences among the types of behavior problems, litter was the most frequently rated by campers as "becoming more of a problem" or "now a major problem" (51.2 percent), followed by rule violations (44.5 percent). "Trouble in general" (21.8 percent) and "improper management" (10.0 percent) received the smallest proportion of "problem" votes. The researchers remark that campers seem determined to view campgrounds as safe, orderly environments, even when they have been victimized. Theft victims, they report, blame their own carelessness, rather than campground authorities, for their loss, and often only report the theft to legitimize their insurance claims, believing nothing can be done to retrieve their property. Campground authorities are not perceived as law enforcers [83, pp.30-31].

In Campbell, Hendee, and Clark's report of participant observation studies in campgrounds they find:

Suprisingly, depreciative behavior in public parks is much more extensive than we were led to expect from interviews with recreation managers and campers. . . . Theft in particular seemed much more prevalent than is generally supposed. . . . Most thefts fit one of two patterns. The first, stealing of camping equipment and food, occurred most frequently during periods of heavy use. The culprits were often teenage males who had come to the campground only for the day or weekend. Usually ill-equipped, they made up for their shortages by stealing. . . . The second type of theft was more serious and involved systematic stealing of valuables . . . from locked automobiles. These robberies were usually performed by noncampers who came to the park for that express purpose [83, pp.30-31].

However, they also report that, contrary to popular opinion, teenagers are not always the most frequent offenders, comprising less than twenty percent (19.1) of the people observed engaging in depreciative behavior. Over half (57.1 percent) of the observed offenders were adults and 23.8 percent were children. They report that

teenagers most often violated campground rules, including traffic regulations, and were less likely than adults or children to commit nuisance acts.

Children, usually while playing in groups of two or three, were most likely to commit acts of vandalism which were directed primarily at campground facilities. But, the most frequent type of inappropriate behaviors for children were nuisance acts -- most often involving pets and violations of privacy.

Adults were most likely to commit nuisance acts or violate rules. When adults were observed in vandalistic acts, they usually involved the natural environment rather than campground facilities, . . . and these adult acts involved individuals rather than groups [84,p.6].

From these observations, the researchers conclude that most depreciative behavior cannot be attributed to maliciousness or a single group of "trouble-makers" but rather to general park users' (1) ignorance of the rules; (2) disregard of rules and the impact of their behavior on others; (3) search for entertainment; or (4) convenience concerns and rules' interference with users' goals. They remark that campers often do not appear to regard the campground and traffic rules as legitimate and would commonly repeat the offense even after being reprimanded by a ranger [84, pp.6-11].

Crime and Conflict in Urban and Suburban Parks: Problems and Perceptions

Moving into the "middle-range" and urban parks of the recreation opportunity spectrum -- the neighborhood, district and some regional parks -- user heterogeneity and the opportunity for conflict due to different expectations increases (Tables 2.1 and 2.2). Here, as Lee

points out, different groups may define the park, or portions of it, as personal space or a "primary" environment while others regard it as public space or a "secondary" environment. Fridgen remarks that

conflicts and divergent social interactive patterns are more likely to occur when user groups have different views about whether the same recreation area is a primary or secondary environment. It is reasonable to expect that people who view a recreation setting as a primary environment would more likely experience personal crowding, have less tolerance of others (especially dissimilar others), and display more tension than people who perceive the same recreation setting as a secondary environment [70, p.382].

The personalization of recreation settings or informal designations of park space as a certain subgroup's "territory" may lead to conflicts, particularly in smaller urban neighborhood parks [73,86,88,89]. Teenagers are often perceived to be "undesirable" or dangerous by other park users. Urban parks are also affected by another group of "problem" users -- the indigents, alcoholics, and elderly poor people who may frequent the park for lack of anywhere else to go. Several studies document how other park users and surrounding residents object to the presence of this user group [128,129,135]. Information about offenders in urban parks tends to focus nearly exclusively on juveniles or "bums" and conflict or vandalism problems. Young people and indigents may view the park, or an area within it, as primary or personal environments and display territorial behaviors that intimidate other users and may be translated into damage of park facilities (graffiti, modification of areas to accomodate personal desires, etc.) [49,85,99]. Neither group generally has access to many other, more private, settings for primary social interaction. Further, since these subgroups are perceived as not sharing other users' values and norms, their behavior is considered unpredictable and potentially dangerous [101, pp.8-9,24-25].

Rasmussen notes that several parks in Chicago have unsupervised areas where young people gather to smoke, drink, and engage in "sexual play." He remarks: "None of the described activities presented a threat to other park users, but their presence did seem threatening" [118,p.47]. Other studies mention the presence of drug sales and use and homosexual or exhibitionist behavior in urban park settings but do not discuss the offenders beyond noting their location and the offender's expressed belief that his or her behavior is appropriate in the given setting, e.g., drug dealers are supplying a demand, exhibitionists are expressing themselves [87,89].

Fear of crime is widely believed to influence use patterns in urban parks [18,pp.23-25; 71,pp.146-149; 118,pp.1-2; 136,pp.108-109]. Flickinger reports that 87 percent of his respondents felt safer in Ohio state parks than in the city parks of Cincinnati, Columbus, Akron, or Cleveland and 29 percent indicated not using their local neighborhood park due to fear of crime [137]. McDonald and Newcomer report that, among their elderly respondent group, nonpark users are more likely than users to fear being victimized in the park, but the presence of "pan-handlers and bums" was a more important reason for avoiding the park [135,p.360]. Malt Associates' study finds that about half of both park users and nonusers in urban areas express concern over their safety in the park (45.9 and 54.7 percent, respectively). They report:

The highest level of concern was expressed by non-user, females, with about 60% saying they were concerned for their safety in parks. A surprisingly large number of these were younger women between 10 and 19. Almost 80% of this group said they were concerned. The lowest level of concern was expressed by park using males, with 45.5% saying they were concerned. . . . While 46% of the users responded they were concerned over their personal safety in the parks, only 13% said they thought there was a lot of park

crime. We believe the responses reflect both a certain concern over crime but also only vague notions as to causes or probability of being personally harmed. In other words, sources of anxiety are not defined [119,p.72].

A higher proportion of non-users (31.8 percent) thought there was a "lot of crime" in parks but less than five percent gave "crime" as a reason for not using the parks. An additional 6.5 percent cited "people who use parks" as the reason they do not use them but the largest percentage (34 percent) of non-users indicated they simply were not interested in park use [119,pp.60-74].

Among park users interviewed by Malt Associates, most do not report avoiding any areas in parks (65 percent). Of those who do, 6.2 percent avoid areas because of the "kind of people" there, 3.1 percent because of fear of crime, and 2.1 percent due to poor lighting at night. Most users either find nothing wrong with the park (21.5 percent) or complain of park facilities or maintenance (47.1 percent). A small proportion (10.6 percent) are bothered by "other people" in the park, and 2.4 percent by "police hassling of youth." "Inadequate lighting," and crime or inadequate policing each account for an additional percent of the complaints. Most park users (88.6 percent) perceive the park to be as safe or more safe than the rest of the neighborhood. Malt Associates summarize the relationship between park environments and attitudes as follows:

a. As a general statement, highly specific and detailed attitudes toward parks were related (1) to smaller parks, (2) the degree of usage and (3) the residential proximity of the respondent. Hence, people who live within a block of and frequently use sub-neighborhood parks tend to have very precise views about what is good or bad about their parks. People who rarely use parks and live more than two blocks from one tend to have only vague notions about the quality of the park.

b. Many people were contradictory in their attitudes toward personal safety in parks and only on the larger parks could we find consistent associations between the park environment and perceived risk. Larger parks have less visibility from the street, more concealment and escape opportunities for the criminal by day. Criminal surveillance or detection is even less feasible by night. Therefore, even though the probability of personal danger in most parks is statistically remote, it appears psychologically real and important to the public.

c. Attitudes toward various security aspects varied considerably by sex and age. . . . Older people felt parks should have a curfew while younger people felt the opposite.

d. Most feared neighborhood scale parks were those single-purpose recreational facilities near large public housing projects and primarily used by teenage males.

e. Most feared community scale parks were those older passive parks, formerly outlying and now accessible to all, which poorly accomodate automobile traffic and changed, intensive and inter-racial use [119,pp.102-103].

As Malt Associates point out, aspects of the park landscape tend to exacerbate some people's fears. Tuan suggests that humans have always feared the dark, both that of nights and that of densely vegetated areas, for what they may hide [69]. Bynum and Puuri note in their study of students' fear of crime on a college campus that wooded areas and walkways adjacent to dense shrubbery were particularly feared areas, though the reported frequency of crime in these locations was quite low [138]. It seems likely that these fears would be more influential in urban park users' perceptions of park safety than those of rural park users since the urban park environment is also characterized by generally lower levels of social homogeneity than those in more remote areas. Further, most visitors to rural parks profess to go there specifically for the outdoor, natural features.

In summary, the available evidence suggests that perceptions of crime and stress in parks, both urban and rural, is more strongly related

to park users' implicit theories, or expectations, of what the park setting is like than to objective measures of antisocial behavior. Park visitors appear to perceive these environments to be safe and orderly so long as perceived user homogeneity is maintained. When a park or portions of a park come to be socially defined by a deviant subgroup, conflict among users and between users and park managers may occur until either other users become accustomed to the setting's new social definition and appropriate adjustments of social, site, and management characteristics occur, or these characteristics are adjusted to re-establish the previous definition by expelling the deviant group and strengthening social processes of setting maintenance.

Urban parks, at least at an abstract level, appear to be more often perceived as dangerous places than more rural or remote recreation settings. This may be attributable to (1) generally higher degrees of user heterogeneity, (2) generally higher perceived risk in urban areas, (3) greater possibility that some users may regard the park as a personal territory (a "primary" environment) and other users treat it as a public setting (a "secondary" environment) and, (4) less acceptance of visual barriers and screening that may isolate users and hide potential attackers in the urban setting.

Dubow, McCabe, and Kaplan cite studies indicating people avoid some urban parks and the areas around them, especially at night, because of fear of crime [101, pp. 6, 35-37]. Women tend to express more fear of crime than men do but neither men nor women park users report crime factors to be especially important considerations in their use of specific urban parks. It appears that, in general, fear of crime in urban parks decreases as familiarity with a particular park increases unless the park

in question is perceived to be defined or controlled by users considered deviant or undesirable. This is consistent with larger patterns of perceived risk and crime levels -- the more abstract the frame of reference, the higher rates of crime and risk are perceived to be [101, 111, 112]. While it seems likely that both park users and non-users perceive rural parks generally to be safer than urban parks, just as rural areas in general are perceived to be safer than cities, there are no data to either directly support or refute this hypothesis.

Behavioral Response to Park Crime and Conflict

Overt behavioral responses to perceived stress and hazard have been identified as (1) avoidance, (2) no action -- rationalization of the situation, or (3) adjustment through protective, ameliorative, preventative, or loss minimization behavior [101, 104, 107]. Park users may be expected to exhibit some form of these behaviors when confronted with crime or conflict situations.

Evidence of avoidance behavior is inconclusive. The "self-sorting" behaviors that many researchers have noted in users' recreation location choices may indicate avoidance of areas perceived as stressful for any number of reasons (crowding or incompatible social atmosphere, for example) as much as a search for an optimal or sufficiently satisfying environment [60, 63, 66, 81, 82, 87, 135, 139, 140, 141, 142, 143, 144].

Evidence of on-site avoidance behavior in response to perceived stress from crowding or other social tensions is mixed. Some wilderness users may overtly avoid other visitors, but many do not appear to do so [77, 79, 139]. Observations of urban park use patterns often reveal voluntary self-segregation of user groups, presumably in response to

perceived social differences and activity preferences [73,87,89,128, 129]. In short, the fact that so many recreation settings are well attended, and some are so popular that crowd and entry control measures are necessary, suggests that parks, in general, are not perceived as dangerous or stressful environments. Of those parks that are not well used and of those individuals who simply do not use parks, we cannot state, conclusively, that crime or fears of confrontation are often major contributing factors.

Many park visitors do not appear to exhibit any behavioral response to potential sources of conflict or observed crime in park settings. In some cases, this may be because people do not object to the behavior in question (nudity, drug use, or whatever); in others it may be attributable to what Campbell, Hendee and Clark term the "norm of noninvolvement." They note that

[i]n urban environments, where strangers are continuously thrown together in public places, privacy is often created by a studious disregard for other people. While creating privacy through anonymity, it also frees the individual from responsibility for the plight of others or their behavior. The "norm of noninvolvement" is very much in evidence in the public campground. We frequently saw campers passively stand by as their neighbor or their neighbor's child violated campground law, damaged park facilities, or created a public nuisance [83,pp.54-55].

In spite of campers avowed intentions during interviews to take action against rule violators, Clark, Hendee and Campbell find that of the 401 depreciative acts they observed, eighty percent were also observed by other campground users and in ninety percent of these cases "no perceptible reaction by adjacent campers could be observed" [84,p.11]. Of those who did react, most merely commented to other people about the incident or simply appeared upset but took no other action.

Christensen's study of bystander reactions to littering in a campground reveals somewhat higher levels of involvement. In an experiment to determine the influence of "appeal to help" messages concerning litter control, she reports that 82.6 percent of campers receiving the message had some reaction to subsequent staged littering incidents compared to 61.1 percent of the uncontacted users [145]. The most frequent reaction was to pick up the litter (56 percent of the control group and 73 percent of those contacted), followed by direct intervention such as speaking to the offender (19 percent of the control and 26 percent of the experimental group), and, least commonly, reporting the incident to campground authorities (six percent of the control group and 16 percent of the experimental group). Overall, 77 percent of the staged littering incidents elicited some type of response.

The responses Christensen reports may be considered primarily ameliorative in that they tended to be addressed to repairing or reporting the damage of a specific incident. Evidence of protective, preventative, or loss minimization behavior is scarce. Studies of campground settings, in fact, indicate a low incidence of these behaviors as campers reportedly leave valuable possessions in unprotected situations fairly often [83,84,127]. One third of Flickinger's sample of state park visitors brought firearms with them for protective purposes, a behavior most common in primitive areas and of visitors over fifty years old [137].

There are no studies of urban park users' reactions or lack of reactions to depreciative behavior comparable to those of campers. Available evidence suggests that the "norm of noninvolvement" or a "live

and let live" philosophy often prevails [87,89]. The individual and often subtle symbolic gestures that maintain social order in other public settings probably prevail in most urban parks as well [101].

Summary

The issue of crime and conflict in park settings is complex. By available objective measures most parks appear to be fairly safe, relative to other public settings. There are, however, many difficulties in evaluating existing data and attaining appropriate measures of depreciative and deviant behavior. With the exception of extreme situations, park users' perceptions of personal safety and other users' behavior seem to be more closely tied to their expectations of the prevailing social norms in different park settings than to either reported deviant incidents or park personnel's perceptions of depreciative behavior frequency in these parks. Generally, rural park settings appear to be considered more safe and orderly than those in urban settings. Women and older people may be somewhat more concerned about park crime than men or young people. Much conflict in parks appears to be generated by different social norms between user subgroups, and many problems are attributed to the presence of groups of young male users.

Park users may avoid, ignore, or object to deviant behavior, depending on their evaluation of its impact on them and their commitment to maintaining site quality or social order. Available information is insufficient for reliable estimates of what kinds or how many people are likely to engage in any of these behaviors in any type of setting.

Defining the Investigative Questions

Review of the available literature on perceptions, behavior, and crime and conflict in park environments suggests several research questions. First, do park users in urban and suburban parks feel safe in the park? Research suggests that people perceive their own neighborhoods to be safer than those they are less familiar with and urban areas to be less safe than suburban or rural areas [101]. Further, some parks appear to be regarded as safer than others. This raises the question of relative safety when comparing a particular park to park users' neighborhoods, images of "downtown," and other parks they are aware of. Because research in fear of crime strongly suggests that evenings in any setting are perceived as more dangerous than daytime, it is anticipated that park users will also share this view of temporal differences in park safety.

Secondly, research on perception and behavior in many areas, particularly fear of crime, reveals differences among people's assessments of personal safety depending on their age, gender, and familiarity with given environments. It is anticipated that women and older people will perceive the park to be less safe and orderly than men or younger people do. It is also expected that (1) the number of depreciative incidents experienced by the respondent as witness, victim, or acquaintance of a victim, (2) frequency of site visits and residential location, and (3) perceived user homogeneity will influence park users' perceptions of park safety.

A central question in behavioral geography is the influence of perception on behavior. Both natural hazard research and studies of response to crime find regularities in human response to various threats.

This study addresses most closely the question of how people who perceive a threat in the park environment appear to respond to it, in particular, do they report avoidance behavior?

The specific problem statements and hypotheses to be tested are:

Problem Statement A: Do park users feel safe in the parks?

Hypothesis A1: Park users will report feeling safe in the park.

Hypothesis A2: Park users will perceive evenings to be less safe than daytime in the parks.

Hypothesis A3: Park users will rate the park as equally or more safe than other parks, their own neighborhood, and downtown areas.

Problem Statement B: How do park users' individual characteristics relate to their perceptions of park safety and behavioral responses to perceived safety?

Hypothesis B1: Park users' perceptions of park safety, in general, are related to their age, gender, and familiarity with the park.

Subhypothesis B1a: Younger park users will feel safer in the park than will older users.

Subhypothesis B1b: Male park users will feel safer in the park than will female park users.

Subhypothesis B1c: Park users who are more familiar with the park will feel safer than those who are less familiar with the park.

Hypothesis B2: Park users perceiving other park users to be similar to themselves will feel safer than those who perceive other users as different from themselves.

Hypothesis B3: Park users who report having been victimized or having witnessed behavior problems in the park or those who report knowing people who have, will report feeling less safe than those who have not had these experiences.

Hypothesis B4: Park users who report feeling less safe in the park will also report more avoidance behavior than those users who report higher levels of perceived park safety.

Hypothesis B5: Park users' age, gender, and familiarity with the park are related, in general, to their reported avoidance of some park areas due to safety concerns.

Subhypothesis B5a: Younger park users will be less likely to report avoiding some park areas than will older users.

Subhypothesis B5b: Male park users will be less likely to report avoiding some park areas than will female users.

Subhypothesis B5c: Park users who are more familiar with the park will be less likely to report avoiding some park areas or the whole park than those who are less familiar with the park.

Hypothesis B6: Park users perceiving other park users to be similar to themselves will be less likely to report avoiding some park areas than those who perceive other users as different from themselves.

Hypothesis B7: Park users who report having witnessed behavior problems in the park, or those who report knowing people who have been victimized there, will report more avoidance behavior than will those who have not had these experiences.

CHAPTER THREE: METHODOLOGY

This chapter describes the methods and instruments used to gather the information needed for this study. First, the study parks are described and the reasons for their selection are discussed. Then, the survey instrument and methods used in gathering information from park users are examined.

Study Park Settings

Although theories of behavior environment interaction rest on the assumption that people respond to certain behavioral "cues" in different settings, very little is known about the relative importance of various setting components in eliciting behavioral response. Clark and Stankey's recreation opportunity spectrum, coupled with Lee's park hierarchy, suggest what the relevant dimensions of variation may be in park settings, in general. In order to identify more specifically the particular aspects of park environments that influence safety related perceptions and behavior, three similar parks, in terms of their location along the recreation opportunity spectrum, were selected for study. Research indicates that widely different types of parks tend to have different overall "images" (Table 2.2). Thus, differences in perceived safety between, for example, a city park and a wilderness area, might arise more from peoples' implicit theories about what kinds of behavior occur in these types of parks, in general, than to actual differences

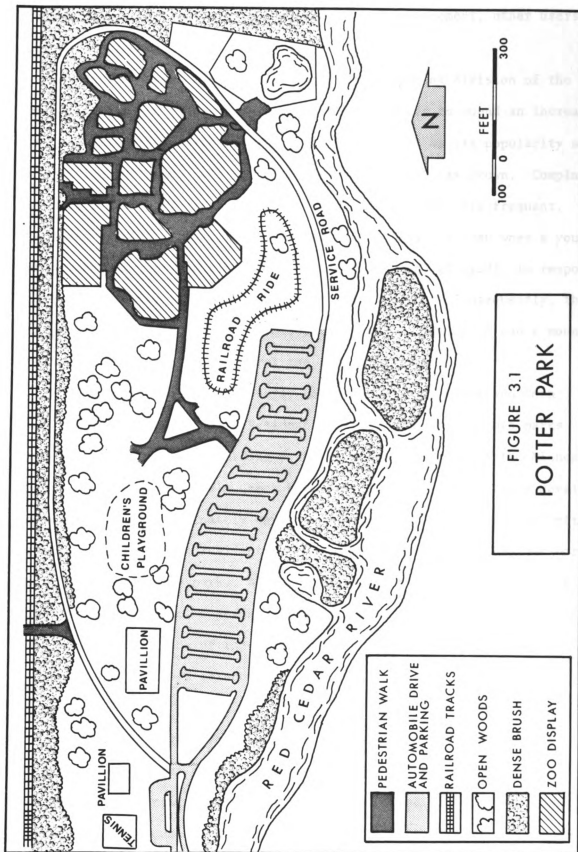
between a particular pair of park environments. By concentrating the investigation in generally similar "types" of parks this problem is minimized. Further, most research to date has concentrated on either small, neighborhood parks or remote, rural recreation settings such as campgrounds and wilderness areas, while this study concentrates on middle-range district level parks in urban and suburban settings. This facilitates identification of both the relevant environmental characteristics that appear to influence park users' evaluations of park safety in all types of park settings and those that differentiate different types of parks' "images."

The parks were selected on criteria of (1) location in an urban or suburban area, since these are the areas presumably most affected by fear of crime problems; (2) medium to large size to avoid investigating only "neighborhood" parks and allow for identification of spatial variations within the park; (3) diversity of facilities and, thus, the likelihood of drawing a diversity of user groups; and (4) cooperation of park management personnel.

Three parks were chosen: Potter Park in Lansing, Michigan and Elm Creek and Coon Rapids Dam Park Preserves in Hennepin County, Minnesota. Lansing, Michigan, the state capital, is a medium size city in central Michigan. State government and Michigan State University in adjacent East Lansing provide considerable white collar employment, while auto manufacturing supports a large blue collar workforce. Potter Park is located between two older residential areas southeast of the downtown and capital area. The neighborhood on the north side of the park is predominantly lower-middle class and racially mixed. There is a single

pedestrian entrance on this side of the park. The only other park entrance is the single auto access point at the west end of the park, connecting to a busy four lane street, Pennsylvania Avenue. Some commercial and industrial enterprises are located along this section of Pennsylvania Avenue and residential areas across the street from the park are similar, socio-economically, to those at the north boundary. The Red Cedar River forms the southern boundary of Potter Park. Across the Red Cedar is an enclave of medium to high income residences. The natural amenities of the river, nearby parks, and a golfcourse, as well as the quality of the houses in this area has produced a fairly stable, high status neighborhood. Another major street, Aurelius Road, forms the eastern boundary of the park and effectively eliminates either pedestrian or auto access from this direction (Figure 3.1).

Potter Park is an older park, and has undergone several design changes through its history. It contains the only free zoo in the mid-Michigan area, although a \$1.00 parking fee to drive into the park was instituted, for the first time, in the summer of 1980. The park contains both wooded and open, grassy areas and has extensive picnic facilities -- picnic pavilions, barbeque grills, and numerous picnic tables. There are also playgrounds, tennis courts, a snack stand, a train ride, a riverboat ride, and a canoe rental facility in the park. Park agency personnel consider Potter to be a family park with regional appeal. They mention that it is a traditional location for many families, organizations, and business groups to hold annual picnics. Because of its attractive natural features and easy access, Potter Park also draws large numbers of teenage and young adult users. In recent years the growing presence of this user group, with their often boisterous and, to some, intimidating

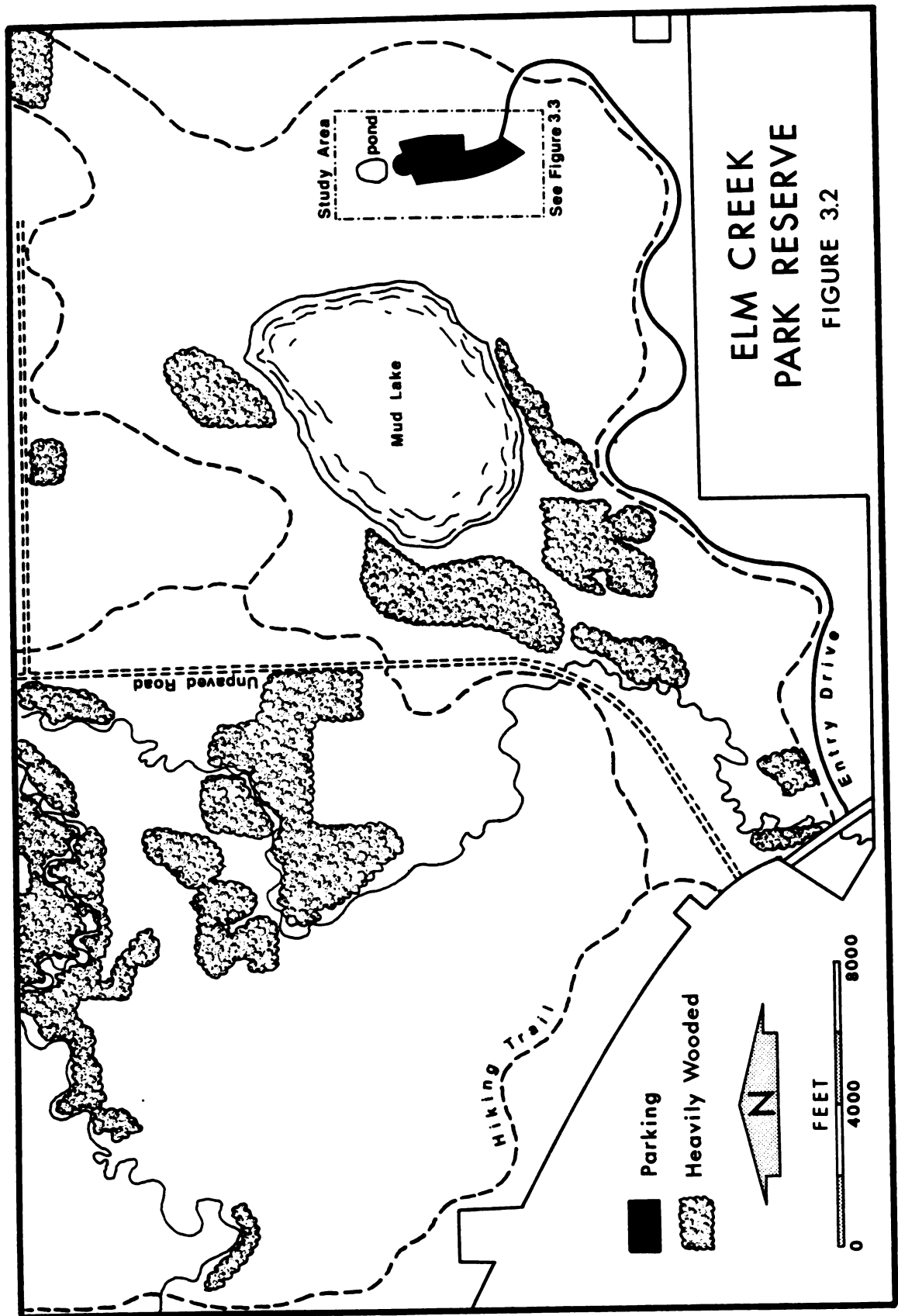


behavior, has been a source of concern to park management, other users, and adjacent neighbors.

Lansing parks are patrolled by a small special division of the city police force. These officers have been forced to spend an increasing amount of their time and energy in Potter Park as its popularity as a location for young people to "cruise" and "party" has grown. Complaints of drug and alcohol use, rowdy behavior, and fighting were frequent. Tensions culminated over the Fourth of July holiday in 1980 when a young white man was shot and killed by a young black man, allegedly in response to earlier racial taunts by a group of white youths. Subsequently, the entrance fee was instituted to discourage casual "cruising" and a mounted policeman was employed to patrol the park full-time.

Hennepin County, Minnesota, contains both Elm Creek and Coon Rapids Dam Park Preserves. Residential areas adjacent to both parks are primarily suburban, serving a fairly affluent sector of the Minneapolis area workforce. Elm Creek Park Preserve is a large, newly developed park in a predominately agricultural setting. A sizable, and still growing, middle-class residential subdivision is located along the north-east boundary of the park. Although residents of this development enjoy relatively unobstructed pedestrian and bicycle access to the park, auto access from this side of the park recently was eliminated, creating considerable conflict between local residents and park management (Figure 3.2).

As a new park, Elm Creek still has a somewhat "raw" look and relatively few areas of mature woods. The subsection chosen for analysis in this study contains a swimming pond with lifeguard stations, snack bar, restrooms, beachhouse, and a first aid station. Also included is a wooded

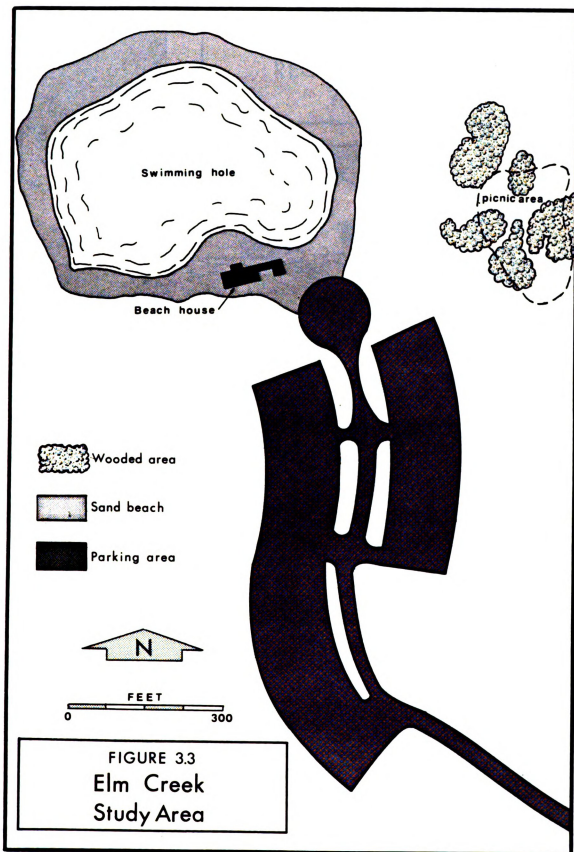


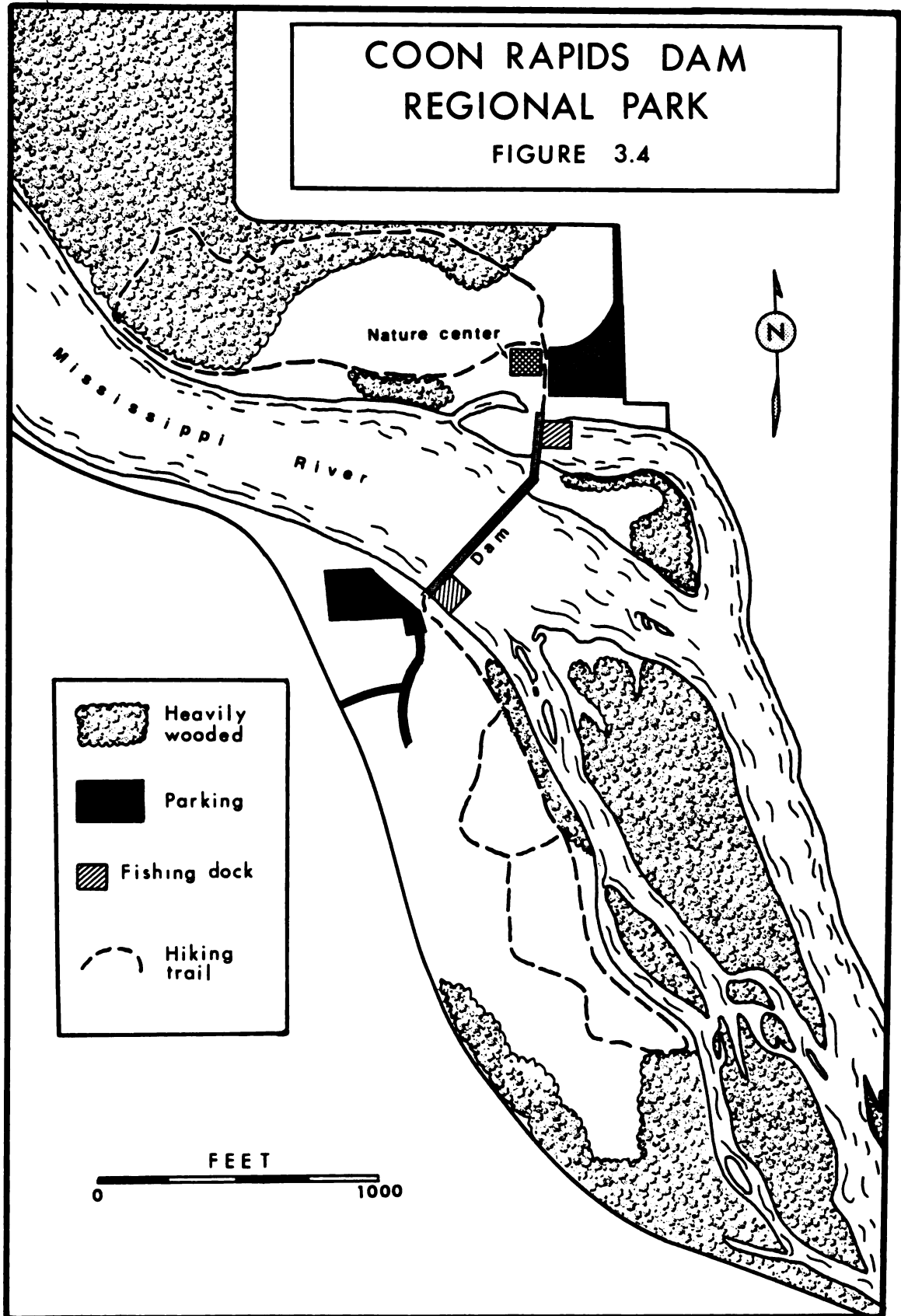
picnic area on a hill above the swimming pond (Figure 3.3). Elm Creek, particularly the swimming pond, is a popular destination for families and young people throughout the region. Life guards and other personnel provide supervision in the pond area and a small roving force of park rangers provides enforcement coverage for the rest of this and other parks in the Hennepin County Park Preserve system.

Coon Rapids Dam Park Preserve is located at the head of navigation on the Mississippi River. It includes wooded riverbank areas on each side of the river and a small power generation dam across the river. The adjacent area on the Hennepin County side of the river is fairly rural, with low density, lower middle to middle class residential development of mixed age. The opposite bank, however, borders a small middle class suburban community. The park entrance on this side is within five minutes driving time of the downtown area. There is easy access to the park, both on foot and by car, on both sides of the river (Figure 3.4).

This park too is new, at least to the Hennepin County system. Recent acquisition of the site by the Park Preserve District brings both benefits and drawbacks for local users. While the Park Preserve District has invested heavily in site improvements, providing an interpretive center, restrooms, picnic and fishing facilities, and improving the aesthetic, accessibility, and safety factors of the dam structure, traditional patterns of access and activity have been disrupted. Parking and entry are now regulated and fees are charged during high use periods. Swimming is prohibited and activities, in general, are more regulated and supervised than was previously the case.

Coon Rapids Dam draws local people for fishing, picnicking, and general enjoyment of the river and dam. "Sightseeing" by more distant





area residents is not uncommon. A small group of South-east Asian immigrants frequently fish here, generating some conflict due to differing language, fishing practices, social norms and customs. The proximity of residential areas and the fairly light level of on-site staffing and park enforcement patrols, has led to some problems of "partying" along the riverbanks during evening hours.

The three study area parks are fairly close together on the continuum of "recreation opportunities." All might be considered district level parks. Although all three parks are adjacent to residential areas, access to the parks is controlled by park design and management. All three parks are moderately well developed, although the specific attractions vary. Park personnel speak of these parks as "family" parks, but considerable user heterogeneity is visible in each park. All are managed for visitor use, rather than resource protection, and a moderate to high degree of regimentation, or supervision, exists in each park.

There is little empirical work available investigating either park user behavior and perceptions or depreciative behavior in these types of settings. Due to time and funding constraints, intensive data collection was limited to three parks in this study. While the data from these three parks have limited generalizability, they do provide baseline information for future research. Comparison of these findings to those of case studies in other types of parks may help identify both common and differentiating elements among park types that influence safety related perceptions and behavior.

Park User Survey

Measures of park users' perceptions and reported behavior were obtained through on-site interviews. Park user interviews were conducted in a face-to-face verbal format with the interviewer recording responses as each question was asked. The survey population was all park users over thirteen years old in the park on interview days. Interview days were selected to provide both weekday and weekend samples and avoid days when special events or conditions might bias responses. A systematic sampling plan was employed to select respondents in the park. Each tenth person over thirteen years old encountered by the interview team while traversing a predetermined route was approached for an interview. Interviews were conducted in teams, with one team member interviewing the randomly selected respondent while the other team member interviewed the respondent's companion(s). This procedure reduces response contamination from the respondents' companions. Only randomly selected respondents' answers are included in the statistical analyses. Interviews lasted from five to twenty minutes. Since less than five percent of all users approached in the survey refused to be interviewed, no measures of refusal bias are calculated. When the selected respondent did refuse, the next individual encountered along the route was interviewed. The survey instrument and administration techniques were pre-tested in Potter Park during the spring of 1980. The sampling technique is an adaptation of one developed by the Hennepin County Park Preserve District research staff.

Selecting the statistically correct respondent from among a group of people was sometimes difficult. When in doubt, interviewers attempted to choose the respondent that provided the most diversity to the sample,

i.e. the one representing a subgroup less frequently encountered. This is appropriate given the exploratory nature of the study and the need for information about the range of responses possible. Also, people who were clearly in transit from one area to another (into or out of parked cars or restrooms, for example) were excluded from the sample selection count. It was felt, based on pre-test experiences, that this avoided many potential refusals without seriously affecting the representativeness of the sample. Sooner or later people became reasonably stationary and approachable, re-entering the sample population.

Overall, given the time, funding, and situational constraints of determining and "capturing" random respondents in an unregulated, free entry and open movement environment, this plan seems to have worked fairly well in terms of efficiency and effectiveness in providing a cross-section of park users. Table 3.1 illustrates the demographic characteristics of the park users surveyed.

To insure that the study results are reflections of reality and not products of interviewer bias several measures of interviewer bias were calculated (Table 3.2). The interviewers in each park were cross-tabulated against the responses they recorded on each of several questions. The items used for evaluation of potential bias are some of those that are most important in the relationships reported regarding park user perceptions and behavior. There are no significant differences as measured by chi-square measures of association among interviewers on any of these items. Further, knowing the interviewer's identity does not reduce the predictive uncertainty in any of the items by more than eight percent as measured by the Asymmetric Uncertainty Coefficient

TABLE 3.1

DEMOGRAPHIC CHARACTERISTICS OF PARK USER SURVEY SAMPLE

	<u>Characteristic</u>	<u>Number</u>	<u>Percent</u>
Age:	13-21 years	77	29.9
	22-34 years	109	42.2
	35-54 years	43	16.7
	Over 54 years	12	4.7
	No response	17	6.6
Gender:			
	Male	120	46.5
	Female	137	53.1
	Missing	1	0.4
Race:	White	228	88.4
	Nonwhite*	30	11.6
Education:			
	Less than high school	49	19.0
	High school graduate	78	30.2
	1-4 years of college	79	30.6
	More than 4 years of college	51	19.8
Household Annual Income:			
	Less than \$7,500	2	0.8
	\$7,500 - \$15,000	8	3.1
	\$15,000 - \$25,000	31	12.0
	\$25,000 - \$35,000	43	16.7
	Over \$35,000	40	15.5
	No response	134	51.9
Work Status:			
	Unemployed or retired	34	13.2
	Student	39	15.1
	Homemaker	36	14.0
	White collar worker	95	36.8
	Blue collar worker	50	19.4
	No response	4	1.5

* Includes blacks, hispanics, and orientals

TABLE 3.2

MEASURES OF INTERVIEWER BIAS: PARK USER SURVEY

User Response Measures	Park					
	Potter		Elm Creek		Coon Rapids Dam	
	Asymmetric Uncertainty Coefficient*	Chi Square (p)**	Asymmetric Uncertainty Coefficient*	Chi Square (p)**	Asymmetric Uncertainty Coefficient*	Chi Square (p)**
Fear index scores	.06	.23	.00	.99	.004	.65
Daytime avoidance	.04	.23	.08	.07	.0002	.97
Evening avoidance	.02	.42	.009	.46	.01	.39
Number of different types of depreciative behavior witnessed in park	.05	.21	.01	.84	.05	.15
Number of crimes and/or harassment incidents reported	.07	.42	.001	.93	.05	.65
Frequency of seeing user behavior problems	.03	.47	.05	.14	.04	.34
Frequency of seeing litter and vandalism	.04	.31	.03	.53	.0002	.89
Frequency of seeing rule violations	.05	.28	.04	.30	.02	.39
Age of respondent	.04	.17	.04	.16	.01	.55
Visit frequency of respondent	.06	.31	.03	.39	.01	.56
Travel time home to park for respondent	.04	.74	.04	.21	.01	.74

* Asymmetric Uncertainty Coefficient with interviewer identity as the independent variable

** Statistical significance level of Chi-square measure of association

(Table 3.2). Thus, it is reasonably certain that any relationships among surveyed park users' individual characteristics, park location, perceptions of safety, and avoidance behavior cannot be attributed to interviewer bias.

CHAPTER FOUR: DATA ANALYSIS

In this chapter the research questions are addressed and the hypotheses tested. The first two sections discuss how park users view the parks in terms of relative safety and how their individual characteristics influence their assessments of park safety and behavior in the park. The final section provides a list of each hypothesis and sub-hypothesis indicating whether they are accepted or rejected.

Relative Park Safety

Assessments of park safety were obtained by asking survey respondents whether they would feel safe alone in the park during the day and evening. Over ninety percent of those questioned reported feeling safe in the park during the day. Evening hours, however, are considered much less safe with over forty percent of the respondents reporting that they would not feel safe alone in the park during the evening (Table 4.1).

The question of safety in the park relative to safety in other public settings was addressed through asking respondents to compare their feelings of being safe in the park to how safe they feel in their own neighborhoods and downtown areas. Respondents were also asked to compare the study park to other parks they knew about in terms of problems like people breaking the law or park rules. As Table 4.2 illustrates, the study parks were overwhelmingly rated as safer than

TABLE 4.1
PARK SAFETY DURING DAY AND EVENING

Question	Response	
	Yes N (%)	No N (%)
Would you feel safe spending the day alone in this park?	232 (91.3)	22 (8.7)
Would you feel safe spending the evening alone in this park?*	136 (57.9)	96 (40.9)

* "Depends on" response category deleted (1.2 percent of responses)

TABLE 4.2
RELATIVE PARK SAFETY

Question	Response		
	Better N(%)	Same N(%)	Worse N(%)
Park compared to downtown	96 (73.3)	25 (19.1)	20 (7.6)
Park compared to other parks	92 (40.2)	122 (53.3)	15 (6.6)
Park compared to neighborhood	26 (19.7)	48 (36.4)	58 (43.9)

downtown areas (73.3 percent "better" and 19.1 percent "same" ratings). Also, over ninety percent of those questioned felt that crime problems and rule infractions in the study park were no more (53.3 percent "same") or less (40.2 percent "better") severe than those in other parks (Table 4.2).

Perceptions of park safety relative to safety in the respondents' neighborhoods are less positive. Although the majority (56.1 percent) of survey respondents report feeling at least as safe in the park as in their own neighborhood, a substantial minority (43.9 percent) feel the park is less safe than their neighborhood (Table 4.2). These results are consistent with other research which suggests that perceptions of safety are related to an individual's familiarity with the setting in question [101].

Based on these findings Hypotheses A1 through A3 are accepted. Park users do appear to regard the park as a fairly safe environment, particularly during the day (Hypothesis A1). Evenings are considered less safe than daytime in the parks (Hypothesis A2) and most users do rate the park as at least as safe as downtown areas, other parks, and their own neighborhoods (Hypothesis A3). The decrease in perceived levels of park safety during the evening and relative to respondents' home neighborhoods is more logically attributable to overall assessments of safety based on the time of day and familiarity with the environment in question than to the specific park environment [101,119]. The importance of temporal setting is revealed in Law Enforcement Assistance Administration survey responses indicating that 26 to 47 percent of residents interviewed in five U.S. cities do not feel safe alone in their own neighborhoods at night [111,112,113,114,115].

In order to assess the relationships between both personal and setting factors and park users' perceptions of park safety a composite measure of perceived safety was constructed. This four point, ordinal level, "fear index" is composed of responses to three questionnaire items: the two previously discussed questions about feeling safe alone in the park during the day and evening and a question about whether or not the respondent feels other people in the park are well behaved.

Guttman scalogram analysis of the responses to these questions yields a coefficient of reproducibility of .99 and a coefficient of scalability of .95, both well above the minimum values required for a valid scale [146]. There are only six scalogram errors, indicating only three of the respondents answering these questions did not conform to the pattern. This suggests that all three items tap a single dimension of variation within park users' appraisals of the park. However, since the Guttman scale contains fewer than the ideal minimum of twelve items, the "fear index" scores computed from these items are treated as ordinal measures.

The four item fear index varies from 1, for respondents who feel other park users are well behaved and that the park is safe for a person alone both day and night, to 2 for people who feel other users are well behaved but who do not feel safe in the park alone during the evening, to 3 for those finding park users well behaved but not feeling safe alone in the park either day or night, and finally, to 4 for those individuals finding other park users to be not very well behaved and the park to be unsafe at all times for a person alone. Table 4.3 indicates the number of respondents in each category.

TABLE 4.3
FEAR INDEX SCORES

Score	Responses	N (%)
1	Other users are well behaved, I feel safe alone in the park day and night	134 (58.0)
2	Other users are well behaved, I feel safe alone in the park during the day but not at night	75 (32.5)
3	Other users are well behaved, I do not feel safe alone in the park day or night	17 (7.4)
4	Other users are not well behaved, I do not feel safe alone in the park day or night	5 (2.2)
	Total	231 (100.0)

Due to the low number of respondents with the maximum index score of four (only five people) scale steps three and four are combined for subsequent analyses, yielding an index value ranging from one to three.

Association of Park Users' Individual Characteristics with Safety Related Perceptions and Behavior

Age, Gender, Familiarity, and Perceptions of Safety

Research on fear of crime suggests that age, gender, and familiarity with an environment are important factors in assessments of personal safety. In order to evaluate the association of each of these characteristics with park users' perceptions of safety, as indicated by their "fear index" score, two measures of association were calculated: the Asymmetric Uncertainty Coefficient and Kendall's Tau. Both measures vary from 0 (no association) to 1 (perfect correspondence). The Asymmetric Uncertainty Coefficient is designed for nominal level variables and measures the proportion by which "uncertainty" in the dependent variable is reduced by knowledge of the independent variable [146, p.226]. It is based on the concept of "proportional reduction in error" and considers the entire distribution of the data, rather than just the modal category. Kendall's Tau does not assume a directional relationship and measures the strength of association between two ordinal level variables by considering their order in every possible pair of cases [146, p.227]. The Tau statistic may be negative or positive and the probability of the observed association arising by chance can be calculated. Use of these two measures affords an estimate of the variation

explained in the dependent variable by knowing the value of the independent variable as well as an indication of the strength and statistical significance of their association.

Hypotheses B1 through B7 are accepted when (1) the calculated Kendall's Tau is both statistically significant at the .05 level or higher and greater than or equal to .30 and (2) the Asymmetric Uncertainty Coefficient is .10 or greater, indicating at least a ten percent improvement in predicting the dependent variable when the value of the independent variable is known. Establishing these "cut-off" levels reduces the probability of accepting a false hypothesis based on significant but weak levels of association and focuses the analysis on the stronger relationships apparent in the data.

In order to test for possible relationships between respondents' age and perceptions of park safety, each respondent's age was classified into one of four ordinal age categories. As the figures in Table 4.4 demonstrate, age is significantly related to perceptions of park safety; as expected, fear index scores tend to increase with respondents' age, however the relationship is not strong enough to accept subhypothesis B1a. Only five percent of the variation in fear scores is explained by age alone. While the proportion of respondents who report feeling unsafe alone in the parks does increase with age, especially for respondents over 55 years old, the low number of respondents in this oldest age group reduces both the reliability and generalizability of these results (Table 4.5).

Gender, a dichotomous, metric level variable, however, is both significantly and strongly related to perceptions of park safety (Kendall's Tau of .64) with females having consistently higher "fear

TABLE 4.4
ASSOCIATION OF RESPONDENTS' PERSONAL FACTORS
WITH FEAR INDEX SCORES

Personal Factors	N	Asymmetric Uncertainty Coefficient*	Kendall's Tau (p)
Age	217	.05	.11 (.02)**
Gender	230	.26	.64 (.00001)**
<u>Familiarity with park:</u>			
Distance from home to park	230	.01	.10 (.05)**
Frequency of park visits	231	.04	.11 (.02)**
Length of local residence	226	.02	.00 (.47)

* Fear index dependent

** Statistically significant at .05 or higher level

TABLE 4.5
AGE AND GENDER OF RESPONDENTS WHO REPORT
FEELING UNSAFE IN THE PARKS

Age and Gender Classes	Total N (%)	Respondents with:					
		Fear index score =3			Fear index score =2		
		N	% all with score 3	% all age or gender class	N	% all with score 2	% all age or gender class
<u>Age (years)</u>							
13-21	69 (31.8)	4	20.0	5.8	22	30.6	32.4
22-34	99 (45.6)	8	40.0	8.1	31	43.1	32.3
35-54	41 (18.9)	4	20.0	9.8	18	25.0	43.9
Over 55	8 (3.7)	4	20.0	50.0	1	1.4	12.5
Total	217(100.0)	20	100.0	9.2	72	100.0	33.2
<u>Gender</u>							
Male	107 (46.5)	0	0.0	0.0	9	9.3	8.4
Female	123 (53.5)	22	100.0	17.9	88	90.7	71.5
Total	230(100.0)	22	100.0	9.6	97	100.0	32.5

index" scores than do male respondents. Over one fourth of the variation in fear scores is predicted by gender (Table 4.4). None of the male survey respondents report feeling unsafe alone in the park during both day and evening and only 8.4 percent report feeling unsafe during the evening (Table 4.5). Thus, subhypothesis B1b is accepted.

Three ordinal level operational measures of park users' familiarity with the study parks were evaluated against fear index scores: (1) the distance a park user lives from the park, as measured by travel time from home to park; (2) how often the park user visits the study park; and (3) how long the user has lived in the area. Familiarity, as measured by distance from park to home and frequency of park visits, is significantly related to fear index scores, although weakly. Less than five percent of the variation in fear index scores is explained by each of these measures (Table 4.4). Length of local residence is not significantly associated with park users' assessments of personal safety in the park. Those who visit the park more frequently and/or live closer to the park are somewhat less likely to report feeling unsafe in the park than those who visit it less often and/or live further from the park, although, again, the association is too weak for hypothesis acceptance. Subhypothesis B1c is therefore rejected. Table 4.6 illustrates the proportion of residents in each travel time and visit frequency category reporting feeling unsafe alone in the park.

Perceived Social Homogeneity and Perceptions of Safety

Several researchers have postulated that feelings of safety are related to the perceived social homogeneity of a setting [73,101]. It is suggested that when people perceive others to be similar to themselves,

TABLE 4.6

RESIDENTIAL PROXIMITY AND PARK VISIT FREQUENCY OF RESPONDENTS
WHO REPORT FEELING UNSAFE ALONE IN THE PARKS

Proximity and Frequency Classes	Total N (%)	Respondents with:					
		Fear index score =3			Fear index score =2		
		N	% all with score 3	% of all in class	N	% all with score 2	% of all in class
<u>Residential Proximity</u> <u>(Travel time):</u>							
1-15 minutes	136 (59.1)	12	54.5	8.8	40	53.3	29.4
16-30 minutes	63 (27.4)	5	22.7	7.9	23	30.7	36.5
Over 31 minutes	31 (13.5)	5	22.7	16.1	12	16.0	38.7
Total	230(100.0)	22	100.0	9.6	75	100.0	32.6
<u>Summer Visit Frequency:</u>							
5 or more visits/month	70 (30.3)	5	22.7	7.1	14	18.7	20.0
1-4 visits/month	51 (22.1)	5	22.7	9.8	21	28.0	41.2
Fewer than 1 visit/month	110 (47.6)	12	54.5	10.9	40	53.3	36.4
Total	231(100.0)	22	100.0	9.5	75	100.0	32.5

the predictability of the behavior of other setting participants is increased and the individual feels more comfortable and, presumably, more safe and secure. The dichotomous, metric level, operational measures used to indicate perceived social homogeneity in this study are: (1) race of the survey respondent; (2) responses to a survey question asking whether the respondent feels that most other park users share their values; and (3) responses to a survey question regarding whether or not park users "watch out for each other" or "don't want to get involved." This question is intended to indicate park users' assessments of the level of informal social controls in the park.

As Table 4.7 illustrates, none of these measures are significantly related to perceptions of park safety and none explain more than two percent of the variation in fear scores. Thus, the hypothesis that users perceiving other park users to be similar to themselves is rejected. Only 13.6 percent of the survey respondents felt that other people in the park did not share their values. Almost one fourth of the respondents (24.8 percent) report that people in the park "don't want to get involved" with others.

Experiences with Antisocial Behavior in the Parks and Perceptions of Safety

It may be that people who have seen, been the victim of, or know a victim of a crime or other antisocial behavior in the parks will feel less safe in the park than those not having these experiences. In order to evaluate the associations between these factors and perceptions of safety, survey respondents were questioned about how frequently, on an ordinal level scale, they had seen or experienced each of several

TABLE 4.7
THE ASSOCIATION OF PERCEPTIONS OF SOCIAL HOMOGENEITY
WITH PERCEPTIONS OF PARK SAFETY

Social Homogeneity Measure	N	Asymmetric Uncertainty Coefficient with Fear Index Score Dependent	Kendall's Tau (p)
Race	230	.01	-.09 (.09)
Other users have similar values to respondent's	215	.02	.00 (.50)
Park users watch out for each other	183	.001	.04 (.32)

types of antisocial or depreciative behavior. Table 4.8 illustrates the relationships between respondents' fear index scores and their experience with various types of park behavior problems. The only types of depreciative behavior that are significantly related to perceptions of park safety are alcohol and drug use. However, these relationships are weak and in the opposite direction from that expected. Thus, the hypothesis that park users who report having been victimized or having witnessed behavior problems in the park or those who report knowing people who have, will report feeling less safe in the park than those who have not had these experiences is not supported and must be rejected.

Fewer than half of the respondents who report experience with serious crime in the park also report feeling unsafe alone there (Table 4.9). Only about one third of those who report "often" seeing other users drinking alcohol or using drugs in the park report feeling unsafe (Table 4.9). In fact, the proportion of respondents who perceive the park to be unsafe tends to decrease as their reported frequency of seeing alcohol and drug use in the parks increases.

This apparently contradictory, or at least unexpected, association between witnessing alcohol and drug consumption and perceptions of park safety requires further exploration. Inspection of Table 4.10 reveals that park user age is significantly related to both frequency of park visitation and frequency of experiencing all types of antisocial behavior. Over 90 percent of the users who report visiting the park more than five times a month are under 34 years old, 43.5 percent are under 21. Ninety percent of the serious crime and harassment incidents are reported by park users under 34 years old; nearly half are reported by users between 13 and 21. Similarly, all the users who report frequently witnessing user

TABLE 4.8
 ASSOCIATION OF WITNESSING ANTISOCIAL BEHAVIOR IN THE PARK
 WITH PERCEPTIONS OF SAFETY
 (N = 244)

Type of Antisocial Behavior	Asymmetric Uncertainty Coefficient (Fear score dependent)	Kendall's Tau (p)
Number of serious crimes or harassment incidents reported*	.01	-.004 (.48)
<u>Frequency of Witnessing:</u>		
Littering	.01	.06 (.11)
Park vandalism	.03	-.005 (.41)
Rowdy behavior	.02	.02 (.31)
Traffic violations	.02	.05 (.17)
Damage to user property	.07	.03 (.32)
Alcohol consumption	.05	-.20 (.00001)**
Drug use	.05	-.07 (.05)**
Rule violations	.01	-.02 (.31)

* N=231

** Significant at or above the .05 level

TABLE 4.9
THE EXPERIENCE OF RESPONDENTS WHO REPORT FEELING UNSAFE ALONE
IN THE PARK WITH CRIME, ALCOHOL CONSUMPTION, AND DRUGS
IN THE PARKS

Frequency of Experience	Total N (%)	Respondents with:					
		Fear index score = 3			Fear index score = 2		
		N	% all with score 3	% of all in class	N	% all with score 2	% of all in class
<u>Serious crime or harassment:</u>							
0 incidents reported	203 (87.9)	20	90.9	9.9	65	86.7	32.0
1 or more incidents reported	28 (12.1)	2	9.1	7.1	10	13.3	35.7
Total	231(100.0)	22	100.0	9.5	75	100.0	32.5
<u>Have seen people drinking alcohol:</u>							
Never	122 (50.0)	15	65.2	12.3	51	63.0	41.8
Once or a few times	57 (23.4)	3	13.0	5.3	20	24.7	35.1
Often	65 (26.6)	5	21.7	7.7	10	12.3	15.4
Total	244(100.0)	23	100.0	9.4	81	100.0	33.2
<u>Have seen people using drugs:</u>							
Never	185 (75.8)	17	73.9	9.2	67	82.7	36.2
Once or a few times	29 (11.9)	4	17.4	13.8	9	11.1	31.0
Often	30 (12.3)	2	8.7	6.7	5	6.2	16.7
Total	244(100.0)	23	100.0	9.4	81	100.0	33.2

TABLE 4.10
 ASSOCIATION OF AGE WITH WITNESSING ANTISOCIAL BEHAVIOR IN THE
 PARKS AND FREQUENCY OF PARK VISITATION
 (N = 241)

Type of Antisocial Behavior	Asymmetric Uncertainty Coefficient with age independent	Kendall's Tau (p)
Number of serious crimes or harassment incidents reported	.04	-.08 (.01)*
Number of types of antisocial behavior witnessed	.06	-.28 (.0001)*
<u>Frequency of witnessing:</u>		
Rule violations (including traffic violations)	.07	-.25 (.0001)*
User behavior problems (including alcohol and drug use, rowdy behavior, damage to user property)	.06	-.24 (.0001)*
Litter and vandalism	.04	-.17 (.0001)*
Frequency of visiting the park	.04	.22 (.0001)*

*Statistically significant at .05 level or higher

behavior problems, including alcohol and drug consumption as well as rowdy behavior and damage to user property, are under 34 and 60 percent are under 21 (Table 4.11). These incidents do not appear to influence younger park users' assessments of their personal safety in the park. Possibly younger users do not perceive these behaviors as personally threatening or as "problems," particularly those incidents defined as "user behavior problems."

Safety Perceptions and Avoidance Behavior

Hypothesis B4, which states that park users who report feeling less safe in the park will also report more avoidance behavior than those users who report higher levels of perceived park safety, directly addresses the question of the association between perception and behavior. Park users were asked whether or not they would (or did) avoid particular areas within the park, during the day or evening, due to safety concerns. Respondents answering "yes" were classified as exhibiting "avoidance behavior." Two dichotomous, metric level, measures of avoidance were obtained, treating day and evening behavior separately. Comparing these responses to individuals' fear index scores in Table 4.12 reveals a moderate to strong and statistically significant relationship between perceptions of safety and reported avoidance behavior, during both day and evening. The relationship between perceived safety and reported avoidance behavior during the evening is the stronger of the two (Kendall's $\tau = .59$). Knowledge of a respondent's "fear score" reduces the uncertainty of their reported avoidance by 16 to 32 percent. Based on these relationships, Hypothesis B4 is accepted. It is interesting to note, however, that 20 to 25 percent of those who report avoidance behavior also

TABLE 4.11
 FREQUENCY OF EXPERIENCING SERIOUS CRIME, USER BEHAVIOR PROBLEMS,
 AND PARK VISITATION FOR EACH AGE CATEGORY

Frequency of Experience	Total N (%)	Percent of each frequency class in each age group (age in years)			
		13-21 (N=77)	22-34 (N=109)	35-54 (N=113)	Over 55 (N=12)
<u>Serious crime or harassment:</u>					
0 incidents reported	211 (87.5)	29.9	45.5	19.0	5.7
1 or more incidents reported	30 (12.5)	46.7	43.3	10.0	0.0
<u>User behavior problems seen:*</u>					
Never	104 (43.2)	21.2	46.2	26.0	6.7
Once or seldom	84 (34.9)	32.1	45.2	16.7	6.0
A few times	23 (9.5)	43.5	47.8	8.7	0.0
Often	30 (12.4)	60.0	40.0	0.0	0.0
<u>Visit frequency:**</u>					
5 or more visits/month	69 (28.6)	43.5	47.8	7.2	1.5
1-4 visits/month	56 (23.2)	32.1	48.2	14.3	5.4
Fewer than 1 visit/month	116 (48.1)	25.0	42.2	25.9	6.9
Total	241(100.0)	31.9	45.2	17.8	5.0

* Includes alcohol consumption, drug use, rowdy behavior, and damage to park user property

** Frequency of visiting park during the summer

TABLE 4.12
 ASSOCIATION OF PERCEPTIONS OF SAFETY AND AVOIDANCE BEHAVIOR
 (N = 221)

Avoids parts of the park during:	Asymmetric Uncertainty Coefficient with avoidance dependent	Kendall's Tau (p)
Daytime	.16	.33 (.0001)*
Evening	.32	.59 (.0001)*

* Statistically significant at .0001 or above

report feeling safe alone in the park during both day and evening hours (Table 4.13).

When asked what areas of the park they avoided, 3.5 percent of the respondents (9 people) indicated they do or would avoid the park entirely during the day due to safety concerns while 12 percent (31 people) report avoiding the whole park during the evening for this reason. Thirty-two percent of those who report evening avoidance and forty-two percent of those reporting daytime avoidance behavior say they do so because the park is not a safe place for a person to be alone, particularly during certain hours. The fact that so many of the reasons given for avoiding the park involve being alone suggests that respondents may have been confused by the question order. Apparently, the previous question regarding whether or not the respondent feels safe alone in the park biased at least some answers to the next set of questions regarding whether or not they ever avoided certain portions of the park. The avoidance questions did not ask about behavior only when the respondent was alone.

Survey respondents were also asked, in a different portion of the interview, whether they had ever visited the park during the evening. Crosstabulation of these responses against measures of safety perception and reported behavior does not reveal any strong relationships (Table 4.14). This provides further evidence that respondents who reported avoiding the whole park during the evening may have been thinking of not visiting the park alone, rather than not visiting it at all. On the other hand, it is possible that respondents who report avoiding the park in the evening do so based on their experiences from previous evening visits.

TABLE 4.13
 PROPORTION OF RESPONDENTS WHO REPORT AVOIDANCE BEHAVIOR
 AND THEIR FEAR INDEX SCORES

Fear Index Score	N (%)	Report avoidance during:	
		Daytime N (%) *	Evening N (%) *
1	130 (58.8)	9 (20.5)	25 (24.7)
2	70 (31.7)	24 (54.5)	62 (61.5)
3	21 (9.5)	11 (25.0)	14 (13.9)
Total	221 (100.0)	44 (19.9) **	101 (45.7) **

* Percent of all who report avoidance behavior

** Percent of all respondents

TABLE 4.14
ASSOCIATION OF SAFETY RELATED PERCEPTIONS AND BEHAVIOR AND
REPORTED EVENING VISITATION

Perceived Safety and Avoidance Behavior	N	Respondent has visited the park during the evening	
		Asymmetric Uncertainty Coefficient*	Kendall's Tau (p)
Fear index score	243	.012	-.10 (.06)
Avoidance behavior during daytime	251	.0002	.02 (.40)
Avoidance behavior during evening	242	.00002	.01 (.47)

* Evening visits dependent on safety and avoidance measures

Personal Characteristics and Avoidance Behavior

Turning to the relationships between personal characteristics, perceptions, and experiences and avoidance behavior, gender is again the strongest predictor, particularly of reported avoidance of park areas during evening hours (Table 4.15). Knowledge of a respondent's gender reduces the uncertainty of predicting whether they will report avoiding the park or areas in the park by 11 to 30 percent (Table 4.15). Females comprise about 85 percent of those reporting both day and evening avoidance and over three-fourths of the female respondents report avoiding the park or areas in the park during the evening (Table 4.16).

Age, familiarity with the park, race, and perceptions of social homogeneity are not significantly related to either day or evening avoidance behavior (Table 4.15). From this evidence subhypothesis B5b that female park users will report more avoidance behavior than will male park users is accepted while the subhypotheses relating avoidance behavior to age, familiarity with the park, and perceived user homogeneity are rejected.

Experiences with Antisocial Behavior in the Parks and Reported Avoidance

The relationship between observed or experienced antisocial behavior and reported avoidance is illustrated in Table 4.17. Experience with serious crimes such as robbery, assault, theft, intimidation, or fights among park users is significantly associated with reported avoidance behavior, both day and evening, however the relationship is weak and less than five percent of the variance in avoidance is explained by exposure to crime. Between 38 and 67 percent of the respondents who

TABLE 4.15

ASSOCIATION OF RESPONDENTS' PERSONAL CHARACTERISTICS AND PERCEPTIONS
OF PARK SOCIAL HOMOGENEITY WITH AVOIDANCE BEHAVIOR

Personal Characteristics	Respondent reports avoidance during:					
	Daytime			Evening		
	Number	Asymmetric Uncertainty Coefficient*	Kendall's Tau	Number	Asymmetric Uncertainty Coefficient*	Kendall's Tau
Age	226	.05	.05	218	.02	-.07
Gender	241	.11	.31**	232	.30	.62**
<u>Familiarity:</u>						
Distance from park to home	241	.01	-.07	232	.002	.04
Frequency of park visits	242	.003	-.01	233	.002	.03
Length of local residence	237	.02	.07	228	.005	.02
<u>Social homogeneity:</u>						
Race	241	.006	-.07	232	.004	-.07
Other respondents have similar values	221	.001	-.02	216	.01	-.10
Park users "watch out" for each other	185	.002	-.04	182	.0001	.02

* Avoidance behavior dependent on personal factors

** Kendall's Tau significant at .05 or higher level

TABLE 4.16
PROPORTION OF MALE AND FEMALE RESPONDENTS
REPORTING AVOIDANCE BEHAVIOR

	<u>Males</u>	<u>Females</u>	<u>Total</u>
<u>Daytime Avoidance:</u>			
Total number	113	128	241
Percent of all respondents	46.9	53.1	100.0
Number reporting daytime avoidance	7	39	46
Percent all reporting daytime avoidance	15.2	84.8	100.0
Percent all in gender	6.2	30.5	19.1
<u>Evening Avoidance</u>			
Total number	108	124	232
Percent of all respondents	46.6	53.4	100.0
Number reporting evening avoidance	15	94	109
Percent all reporting evening avoidance	13.8	86.2	100.0
Percent all in gender	13.9	75.8	47.0

TABLE 4.17
ASSOCIATION OF WITNESSING ANTISOCIAL BEHAVIOR WITH
REPORTED AVOIDANCE BEHAVIOR

Type of Antisocial Behavior	Respondent reports avoidance during:			
	Daytime (N=252)		Evening (N=243)	
	Asymmetric Uncertainty Coefficient**	Kendall's Tau (p)	Asymmetric Uncertainty Coefficient**	Kendall's Tau (p)
Number of serious crime or harassment incidents reported	.05	.01 (.002)*	.02	.09 (.01)*
<u>Frequency of witnessing:</u>				
Littering	.05	.11 (.009)*	.02	.16 (.007)*
Park vandalism	.02	.14 (.05)*	.01	.01 (.32)
Rowdy behavior	.02	.09 (.04)*	.01	.08 (.09)
Traffic violations	.03	.13 (.0004)*	.03	.19 (.002)*
Damage to user property	.01	.01 (.19)	.01	.03 (.07)
Alcohol consumption	.01	-.03 (.29)	.01	-.11 (.06)
Drug use	.01	.02 (.33)	.03	-.02 (.36)
Rule violations	.01	.06 (.12)	.00	.003(.48)

* Significant at .05 or higher level

** Avoidance behavior dependent

report being victimized in the park or knowing someone who was also report avoidance behavior (Table 4.18).

Weak but statistically significant associations also exist between reported avoidance behavior and the frequency of witnessing litter and vandalism problems, rowdy behavior, and traffic violations. Although none of these factors reduces the predictive "uncertainty" of avoidance behavior by more than five percent, they do tend to reinforce conventional wisdom regarding the negative influence of physical park damage and rowdy behavior on park user perceptions of social order in the park setting [8,128,135,147,148]. Still, in each category, at least half of the respondents reporting avoidance behavior report never witnessing these depreciative behaviors (Table 4.18). Further, only 14 (5.6 percent) of those interviewed report witnessing park vandalism and while half of them also report evening avoidance this still constitutes only 7 people -- six percent of all those who report avoiding the park or areas in the park during the evening. The numbers of people reporting having witnessed litter and/or rowdy behavior are larger -- about 35 percent of those interviewed -- and between 53 and 47 percent of them also report evening avoidance. These proportions drop to 24 and 27 percent for reported daytime avoidance (Table 4.18).

The association between avoidance behavior and the reported frequency of witnessing traffic violations, although weak, suggests that respondents were not thinking only of the threat of being victimized or harassed when reporting areas they would avoid due to safety concerns (Table 4.18). The threat of being hit by a careless driver may be a component in avoiding certain park areas. Over sixty percent of those respondents who report witnessing traffic violations "often" also report

TABLE 4.18

THE EXPERIENCE OF RESPONDENTS REPORTING AVOIDANCE BEHAVIOR WITH CRIME,
LITTER, VANDALISM, ROWDY BEHAVIOR AND TRAFFIC VIOLATIONS IN THE PARK

Frequency Classes	Total Respond- ents N (%)	Respondent reports avoidance during:					
		Daytime (N=48) *			Evening (N=117) *		
		N	% all who avoid	% all in class	N	% all who avoid	% all in class
<u>Serious crime or harassment:</u>							
0 incidents reported	213 (88.0)	35	76.1	16.4	91	83.5	44.2
1 or more incidents reported	21 (12.0)	11	23.9	37.9	18	16.5	66.7
<u>Littering:</u>							
Never seen	164 (65.1)	24	50.0	14.6	67	57.3	42.4
Once/few times	64 (25.4)	19	39.6	33.3	36	30.8	56.2
Often seen	24 (9.5)	5	10.4	20.8	14	12.0	58.3
<u>Park vandalism:</u>							
Never seen	238 (94.4)	43	89.6	18.1	110	94.0	47.8
Once/few times	9 (3.6)	2	4.2	22.2	5	4.3	55.6
Often seen	5 (2.0)	3	6.3	60.3	2	1.7	66.7
<u>Rowdy behavior:</u>							
Never seen	166 (65.9)	27	56.3	16.3	71	60.7	44.7
Once/few times	63 (25.0)	14	29.2	22.2	35	29.9	55.6
Often seen	23 (9.1)	7	14.6	30.4	11	9.4	55.0
<u>Traffic violations:</u>							
Never seen	157 (62.3)	23	47.9	14.6	62	53.0	40.5
Once/few times	64 (25.4)	14	29.2	21.9	38	32.5	59.4
Often seen	31 (12.3)	11	22.9	35.5	17	14.5	60.7

*N=46 daytime and N=109 evening for serious crime category

avoiding areas of the park during the evening and 26.3 percent report daytime avoidance (Table 4.18). The frequency of witnessing rule violations or user behavior problems is not associated with park users' decisions to avoid certain areas of the park or the whole park during either day or evening hours. Although it does appear that park users who report having witnessed behavior problems in the park, or those who report knowing people who have been victimized there, are somewhat more likely to report avoidance behavior than will those who have not had these experiences, Hypothesis B7 does not receive sufficient support for acceptance and must be rejected.

One of the problems in assessing the relationship between experience with antisocial behavior in the park and both perceptions of safety and reported avoidance is the low number of respondents who report experiencing, or knowing someone who has experienced, a serious crime or incident in the parks. Only four survey respondents (1.6 percent of the random sample) report knowing of a violent crime in the park; none were experienced personally by the respondent (Table 4.19). Eight people (3.2 percent) report park thefts and twenty-four people (9.5 percent) report incidents of intimidation, "hassling," or fights among park users. Possibly a larger sample would reveal stronger relationships between perception and criminal victimization.

Nearly three-fourths (74 percent) of the respondents report witnessing at least one type of problem behavior in the park. Alcohol consumption is the most frequently reported incident observed with 48.4 percent of the respondents reporting seeing people drinking alcohol in the park, followed by rule violations (35.7 percent) and parking or traffic violations (37.7 percent). One third of the respondents report

TABLE 4.19
 REPORTS OF ANTISOCIAL BEHAVIOR WITNESSED IN THE PARKS
 (N = 252)

<u>Type of Antisocial Behavior</u>	<u>Number</u>	<u>Percent</u>
Respondent experienced or knows someone who did:		
Violent crime	4	1.6
Theft	8	3.2
Intimidation, fights, argument, or "hassle"	24	9.5
Respondent has seen:		
Littering	88	34.9
Park vandalism	16	6.3
Violation of pet/leash rules	73	29.0
Rowdy, loud, or offensive behavior	86	34.1
Parking or traffic violations	95	37.7
Damage to park user property	6	2.4
Drinking alcohol	122	48.4
Drug use	60	23.8
Rule violations	90	35.7

witnessing littering and rowdy or offensive behavior in the park. Damage of park user property (2.4 percent) and park vandalism (6.3 percent) are the least frequently reported problems (Table 4.19). Thus, it seems that if these incidents, other than vandalism and user property damage, are associated with park users' perceptions or behavior, this sample would be adequate to reveal the nature of such associations. Instead, the weak and, in the case of perceptions of safety, contradictory relationships exhibited suggest that intervening, or more influential, factors exist to explain perceptions of safety and avoidance behavior. It is interesting to note that in spite of so many park users reporting having witnessed various types of depreciative behavior in the park, it is still considered as safe, or safer, than downtown, neighborhood, and other park settings (Table 4.2). This appears to imply that a fairly wide range of behaviors are considered normal, if not acceptable, in many public settings and that witnessing such behavior in parks is not considered unusual.

Reasons for Avoidance Behavior

Some additional insights into park users' safety-related perceptions and behavior are provided by inspection of the responses to two open-ended survey questions. When asked why they avoided the park or areas within the park, the most commonly cited reason was "because of the kinds of people there" (24.5 percent of all reasons given). "Not safe for some people or for people alone" is the second most frequently mentioned reason, followed by concerns about people hiding in the woods or bushes (Table 4.20). Only one person mentioned avoiding areas where they had seen problems occur.

TABLE 4.20

REASONS FOR AVOIDING THE PARK OR PARK AREAS*

Reason	Avoidance during:		Total N(%)
	Daytime N(%)	Evening N(%)	
Because of the kinds of people there	13 (33.3)	21 (21.0)	34 (24.5)
Not safe for some people or for people alone	10 (25.7)	19 (19.0)	29 (20.8)
People can hide in the woods or bushes	4 (10.3)	19 (19.0)	23 (16.5)
Evenings are not safe	2 (5.1)	16 (16.0)	18 (12.9)
Few other people around	3 (7.7)	10 (10.0)	13 (9.4)
Physical hazards (park structures, water, etc.)	5 (12.8)	3 (3.0)	8 (5.8)
Not well lighted	0 (0.0)	8 (8.0)	8 (5.8)
Never totally safe/ not a safe place	2 (5.1)	3 (3.0)	5 (3.6)
Have seen problems there	0 (0.0)	1 (1.0)	1 (0.7)
Total	39(100.0)	100(100.0)	139(100.0)

* Respondents could mention more than one reason

Thus, although there are no significant associations between reported avoidance and perceived user homogeneity or rule compliance, the park social environment does appear to influence users' safety related perceptions and behavior. It may be the location or spatial clustering of the types of users considered threatening that influences other users' behavior. In terms of who these "threatening" users are, survey respondents were also asked to identify the kinds of people who cause problems in the park. Nearly sixty percent named "young people," "kids," or "teenagers" (Table 4.21). The question of whether, in fact, young people are the "kinds of people" being avoided in the parks requires detailed, site specific, observational studies to answer. Such studies could also further illuminate the influence of the physical environment, in terms of vegetation, lighting, and physical hazards such as rivers or park structures, on users' perceptions and behavior.

Summary of Acceptance or Rejection of Study Hypotheses

<u>Hypotheses and Subhypotheses</u>	<u>Accepted or Rejected*</u>
A1 Park users will report feeling safe in the park.	Accepted
A2 Park users will perceive evenings to be less safe than daytime in the parks.	Accepted
A3 Park users will rate the park as equally or more safe than other parks, their own neighborhood, and downtown areas.	Accepted
B1 Park users' perceptions of park safety, in general, are related to their age, gender, and familiarity with the park.	
B1a Younger park users will feel safer in the park than will older users.	Rejected
B1b Male park users will feel safer in the park than will female users.	Accepted

TABLE 4.21
WHO CAUSES PROBLEMS IN THE PARK?*

<u>Group</u>	<u>Number</u>	<u>Percent</u>
Kids, teens, or young people	70	59.3
Drinkers or drug users	24	20.3
A few trouble-makers	20	16.9
Members of a particular ethnic group	5	4.2
Total	118	100.0

* Respondents could identify more than one group

- | | | |
|-----|---|----------|
| B1c | Park users who are more familiar with the park will feel safer than those who are less familiar with the park. | Rejected |
| B2 | Park users perceiving other park users to be similar to themselves will feel safer than those who perceive other users as different from themselves. | Rejected |
| B3 | Park users who report having been victimized or having witnessed behavior problems in the park or those who report knowing people who have, will report feeling less safe than those who have not had these experiences. | Rejected |
| B4 | Park users who report feeling less safe in the park will also report more avoidance behavior than those users who report higher levels of perceived safety. | Accepted |
| B5 | Park users' age, gender, and familiarity with the park are related, in general, to their reported avoidance of some park areas due to safety concerns. | |
| B5a | Younger park users will be less likely to report avoiding some park areas than will older users. | Rejected |
| B5b | Male park users will be less likely to report avoiding some park areas than will female users. | Accepted |
| B5c | Park users who are more familiar with the park will be less likely to report avoiding some park areas than those who are less familiar with the park. | Rejected |
| B6 | Park users who are more familiar with the park will be less likely to report avoiding some park areas than those who perceive other users as different from themselves. | Rejected |
| B7 | Park users who report having witnessed behavior problems in the park, or those who report knowing someone who has been victimized there, will report more avoidance behavior than those who have not had these experiences. | Rejected |

* Acceptance or rejection of hypotheses is based on statistical significance (equal or greater than .05) of Kendall's Tau, the strength of association as measured by Kendall's Tau (greater than or equal to .30), and the proportional reduction in error as measured by the Asymmetric Uncertainty Coefficient (greater than or equal to .10).

CHAPTER FIVE: SUMMARY AND CONCLUSIONS

In the first portion of this chapter the specific results of this study are summarized and discussed. Next, the theoretical implications of these results are examined in the context of both behavioral geography and leisure studies. In the concluding portion, the practical implications and recommendations for park managers, planners, and law enforcement are discussed.

Summary and Discussion of Results

Relative Park Safety

The majority of people using the three study parks do appear to regard them as safe environments, at least during the day. In fact, similar to the campers in Clark, Hendee, and Campbell's study, many park visitors regard the parks as safe and orderly places in spite of their reports of experiencing or knowing about criminal or depreciative behavior in these settings [80,83,84]. Further, a lower proportion of these park users report safety concerns than do Malt Associates' urban park user respondents [119]. However, the format of the questions evaluating safety concerns is not identical in these two studies and Malt Associates did not distinguish between day and evening park use, although they remark that their respondents "do not think in terms of evening usage" [119].

There is clearly a difference in perceived safety between day and evening park use among this study's respondents. Although nearly sixty percent of the park users questioned reported feeling safe in the park during the evening, this is a considerably smaller proportion than the ninety percent reporting feeling safe alone there during the day. This is consistent with general "fear of crime" research and is likely due to overall differences in perceived safety between day and night rather than being specific to the park setting. However, it does suggest that "implicit theories" and social definitions of park environments have a temporal dimension.

The study parks also appear to be considered fairly safe, relative to other public settings. The large majority of respondents consider the parks to be safer than "downtown," and as safe or more safe than other parks. A smaller majority regard the parks to be at least as safe as their own neighborhood. Over half of the respondents regard the study parks to be as safe as other parks they know about and only one fourth report avoiding any park due to safety concerns. This implies that parks, in general, are considered to be fairly safe environments.

The overall patterns of responses to these items suggests a hierarchy of perceived safety in public settings ranging from the most familiar and socially homogeneous settings -- i.e. neighborhoods -- to socially heterogeneous and less familiar areas such as "downtown." Thus, "parks" as a particular type of public setting appear to fall near the "safe" end of this continuum.

Association of Park Users' Individual Characteristics
with Safety Related Perceptions and Behavior

Although the above results generally support the hypothesis that more socially homogeneous environments are perceived as safer than socially heterogeneous settings, park users' responses to direct questions regarding the parks' social homogeneity and informal social controls within each park are not statistically associated with either their evaluations of personal safety or their reported avoidance behavior in the park. There are also no demonstrable differences in safety perceptions or reported avoidance behavior between white and non-white park users. Almost three-quarters of the park survey respondents believe that most, if not all, other users share their values and over half feel that people in the park will "watch out" for one another. Perhaps the general image of parks as safe environments is strong enough to overcome the reservations of those respondents who do not share the majority view of other users' values and rule compliance.

It is also possible that the survey questions simply do not provide adequate measures of perceived social homogeneity or informal social control. Possibly these judgements are not easily articulated or overtly recognized by park users and the direct questions may be too simplistic. The fact that 13 to 24 percent of the survey respondents did not answer these questions may indicate that question wording was ambiguous or inappropriate [149, pp.157-161].

Gender is the personal characteristic most strongly associated with perceptions of park safety and reported avoidance behavior. Females have the highest fear index scores, indicating they would not feel safe alone in the park at any time. Less than one percent of the

male respondents report feeling unsafe in the park during either the day or evening. Males are somewhat more likely to report avoiding certain areas of the park due to safety concerns but females still comprise over 80 percent of all those reporting both day and evening avoidance behavior.

This is consistent with the findings of both general fear of crime research and Malt Associates' study of perceptions of safety in urban parks [101,119]. Malt Associates report that the females in their sample appear to be reacting to a general, undefined sense of anxiety rather than to specific features of the park environment. These findings suggest that males and females may have markedly different perceptions of park safety.

There is a weak but statistically significant association between age and perceptions of park safety with reports of feeling unsafe increasing with the respondent's age. However, only eight people over 55 years old were interviewed. A larger sample with correspondingly higher proportions of middle age and elderly respondents might provide a more reliable measure of the association between age and fear. Since less than ten percent of all the user groups observed in the parks included older people, it is tempting to speculate that older users may be avoiding the parks entirely due to concerns about safety. There may, however, simply be few attractions in these three parks for older users, the parks may be less convenient for older visitors to get to than other parks, and/or there may simply be low proportions of older people in the park service areas. The fact that no association was found between age and reported avoidance behavior also does not support such speculations. Finally, as Malt Associates report, even young women report park safety

concerns, thus the influence of gender may mask or overwhelm existing associations between age and safety concerns.

There are also weak but statistically significant associations between two measures of familiarity with the park and feelings of safety. The proportions of respondents reporting feeling unsafe in the parks increases with the distance between a respondent's residence and the park and decreases with the frequency with which he or she visits the park. Neither measure of familiarity is associated with reported avoidance behavior.

The lack of a strong association between familiarity with the park and perceptions of safety or reported behavior may be due to the overriding differences between males and females. It is possible that, as with the lack of demonstrable relationships between park social homogeneity and perceptions of park safety, the image of parks in general or people's implicit theories about the safety of these particular "types" of park settings influence their safety related perceptions and behavior more strongly than does their actual familiarity or experience with the particular park in question.

Association of Exposure to Antisocial Behavior in the Parks and Safety Related Perceptions and Behavior

The pre-eminence of ideas or implicit theories about the park environment in determining evaluations of park safety is also suggested by examining the relationship between respondents' exposure to crime and other depreciative behavior in the parks and their evaluations of park safety and reported avoidance. Over ninety percent of those reporting feeling unsafe in the park during both day and evening have never been victims of serious crime or harassment in the park nor do they report

knowing anyone who has been. Conversely, only 7.1 percent of those reporting these incidents fall into the high "fear" category. In addition, there are weak but statistically significant relationships between perceived safety and the frequency with which respondents report witnessing other users engaged in the potentially objectionable activities of drinking alcohol and using drugs. These associations, however, are negative, indicating that people who report seeing this behavior frequently also tend to report feeling safe in the park.

These findings are consistent with other studies which find little association between victimization and fear of crime [101, p.27]. The fact that witnessing potentially objectionable behavior in the park does not appear to be considered threatening is probably due to the fact that as respondents' age increases the frequency with which they report both witnessing all types of depreciative behavior and visiting the park decreases. Younger users may see more potentially objectionable or depreciative behavior simply because they spend more time in the park than do older users. Further, and perhaps more important, these behaviors do not appear to be interpreted as personally threatening. In fact, younger users, in particular, may consider drinking alcohol, drug use, and rowdy behavior to be fairly acceptable and expectable types of park use.

Although experience with serious crime or conflicts in the parks is not related to perceptions of safety, it is weakly but significantly associated with reported avoidance behavior. Two-thirds of the respondents who have either been victimized in the park or know someone who was report avoiding areas of the park or the whole park during the evening. Although there is no indication that these park users are

necessarily avoiding the particular area where they or someone they know was victimized, it does suggest that they may feel safe so long as they avoid certain areas or situations. Dubow, McCabe, and Kaplan report that at least some crime victims do appear to subsequently avoid the locations or types of areas where they were victimized [101, p.63].

There are also significant, although weak, positive associations between reported avoidance and the frequency of witnessing people littering or vandalizing park facilities, being loud or rowdy, and violating traffic laws. This is consistent with conventional wisdom regarding the negative influence of litter, vandalism, and rowdiness. It also suggests that respondents were not thinking only of safety from serious crime when they answered these questions. Again, it cannot be established that respondents are, in fact, avoiding those areas where they have seen these behaviors. The relationships are weak and may simply be coincidental. There may also be an underlying dimension of variation in park users' awareness or concern about depreciative behavior that makes some users more likely to report both their own avoidance behavior and other users' misbehavior.

Overall, few people report being victimized or knowing victims of serious crimes or harassment in the parks. Most of the serious crime and harassment incidents reported are fights or verbal intimidation. However, about 75 percent of the respondents have seen some kind of potentially depreciative behavior -- mostly alcohol consumption, park rule and traffic or parking violations, and littering or rowdy behavior. Thus, although many park users are aware of these activities it does not appear to influence their assessments of the parks' social order since the large majority of the respondents report that other people in the

park are both well behaved and obey the rules. This suggests that implicit theories about these types of urban and suburban park environments may include the expectation or acceptability of some types of potentially objectionable behaviors in these settings.

Association of Perceptions of Safety with Avoidance

There is a moderate to strong association between perceptions of park safety and reported avoidance behavior. People who do not feel safe alone in the park also tend to avoid visiting the park or areas within it, demonstrating a clear link between perception and behavior. More avoidance is reported during the evenings than during the day, reinforcing the previous findings regarding the differences perceived to exist in park safety from day to evening hours.

Not feeling safe alone in the park is a frequent reason given for avoiding the park or areas within it. This reveals an error in survey design. The avoidance questions were not intended to refer only to how the respondent did or would behave when alone. However, the placement of these questions after those asking about general perceptions of safety appears to have biased some respondents' answers to the avoidance questions. This may have led to over reporting of avoidance behavior, in general, since few people actually visit the parks by themselves. It may also have masked more site specific behaviors by people responding that they simply would not visit the park alone, rather than reporting the particular areas of the park they might avoid when visiting the park with others.

Almost one-fourth of those who report avoidance behavior do not report feeling unsafe alone in the park during either day or evening

hours. This, coupled with the finding that those respondents who report serious crime or harassment incidents appear to be more likely to report avoidance behavior than to indicate they do not feel safe alone in the park, again, suggests that some people may feel safe so long as they avoid certain park areas or times of day. However, generalizations based on the responses of those few respondents who report experiencing criminal incidents are questionable. It is probably more important to note that 76 to 84 percent of those who report avoiding the park or areas in the park do not report exposure to serious crime or harassment in the park. Most people, then, appear to base their behavior on perceptions of relative safety, rather than previous experience with threatening events.

Study Limitations

Both the small number of park users interviewed and the few park sites included in the study limit the generalizability of the above findings. Although the park user sampling procedure insures a reasonably representative sample of users in the three study parks, these three parks may not be an adequately representative sample of district parks, in general. Further research defining the characteristics of district level parks and district park users is necessary to evaluate the generalizability of these findings in terms of their reflection of the "image" of this type of park setting.

Low numbers of respondents also preclude separate analyses of different user groups such as males versus females and older versus younger park users. Low numbers of respondents also may result in under representation of certain groups, thus missing important variations in park users' perceptions and behavior.

While the focus of the study is limited to questions of park users' safety related perception and behavior, a complete investigation of both the impact of crime on park use and the overall image of district parks requires a representative sample of both park users and potential park users. People presently using the park represent a self-selected group of the general population in terms of their behavior and views of park safety. Clearly, people who consider the parks to be very dangerous locations probably visit them very seldom, if at all.

Determining the validity of survey measures of perceptions and behaviors is always difficult. Many relevant concepts and attitudes, such as views of the effectiveness of informal social controls in a given setting, may be difficult to adequately articulate for both the researcher and the respondent. Attempts to isolate one aspect of the environment and ascertain its relationship to reasonably complex constructs such as perceptions of personal safety, may lead to oversimplification. Further, asking respondents whether or not they would feel safe alone in the park may be overly artificial since few people actually visit the parks alone. Responses to questions about hypothetical situations, in general, may not provide reliable indications of actual behavior. Also, questions about generally "safe" or "unsafe" areas or times may not always elicit responses relevant specifically to perceived safety from criminal attack. Until better measures of these constructs can be developed and, where possible, validated by observational data, these items can only be judged in terms of face validity. Further work in this area requires both replication of current measures with larger samples and investigation of alternate methods of gathering relevant information.

Future Research

A full understanding of the interactions among the operational, perceptual, and behavioral environments of people using district parks in urban and suburban settings requires a much more detailed and smaller scale approach than was employed in this study. Data aggregation prevents identification of the specific combination of factors that may influence a particular users' response to various physical and social factors in the parks. A research approach employing detailed behavior mapping and in-depth, unstructured interviews with different types of users would add some "meat" to the "bare bones" so far supplied. A more fine-grained analysis could explore how people move through the park and select activity locations.

For example, the "kinds of people" being avoided could be more readily determined using this approach. Informal discussions revealed that in Potter Park both park users and park personnel identify the parking lot area as the site of many problems. During the fieldwork, interviewers noticed that it was not uncommon for a group of four to six young people to dominate an entire parking bay (Figure 3.1) by tossing a frisbee down its center aisle, turning up their car stereos, and shouting back and forth with companions perched on nearby car hoods. Some older users and family groups reported being intimidated or angered by this behavior. They were reluctant to drive through or park in an area where this was occurring and were disturbed to find youngsters sitting on or lounging against their car when they returned to the parking lot from another part of the park. Both users and nearby residents also complained about the often incessant parade of young people "cruising" in their cars through the parking lot. Behavior mapping and unstructured interviews

could more readily demonstrate the perceptual and behavioral impacts of this type of park behavior.

Detailed observational studies could also explore the relationships between reported perceptions, reported behavior, and actual behavior. Both temporal and spatial variations in park use could be examined. The results of this study suggest that females may avoid certain areas of the park, possibly wooded areas for example, and may avoid parks during the evening due to fear of crime. Observations could validate these findings and/or demonstrate other differences between male and female park users' spatial behavior.

Further investigation of differences among age groups in their behavioral expectations and responses to the park environment is also warranted. A larger survey sample of park users, including more older visitors, combined with observation of park behavior patterns, may reveal different social definitions of recreation places, based on age and peer group expectations, and different patterns of park use due to avoidance of "non-conforming" users as well as different interests and activities. A survey of local residents might reveal patterns of non-use of park areas attributable to fear of crime and non-conforming values and expectations about what kinds of behavior and users might be found in different types of parks. Clearly, full investigation of the relationships among safety related perceptions and behavior, individual characteristics, and types of park settings requires extensive household survey data.

Future studies would benefit from better measures of objective risk in the parks. Careful records of the location, time, and details of criminal and depreciative behavior in the parks are needed. Gaining

these measures is, however, problematic. Both parks and law enforcement agencies are currently understaffed and personnel complain about the seemingly unending supply of paperwork and reports already required of them. Thus, it is doubtful that agencies will provide either the park coverage or report details needed. Park users' objectivity and willingness to supply information about these incidents is questionable. Finally, serious or violent crimes in the parks appear to occur infrequently, in general, and it may be difficult, if not impossible, to objectively define zones of risk within the park based on these events.

A research agenda for future efforts would include, first, detailed case studies employing both interviews and observations in selected parks to better determine the appropriate dimensions of variation to be addressed. As these questions begin to be answered, more comprehensive, general approaches, could be launched to improve the representativeness and quality of the existing data base. Better understanding of how people use and perceive recreation settings and identification of those environmental elements that may be considered threatening has both theoretical and practical significance.

Theoretical Implications

Recreation geography is concerned with the location, use, and physical, social, and economic impact of recreation places. An important aspect of recreation places is how social definitions and behavioral expectations about them are formed and how these place "images" influence the use of these spaces. This in-depth look at one particular aspect of park user perceptions and behavior in a particular type of recreation setting adds to the understanding of how people perceive recreation places

and the "image" that people have of this type of district level park.

By comparing people's fear of crime and avoidance behavior in parks to that in other public settings, an indication is provided of the generalizability of other studies of fear of crime. Additional information is supplied regarding how people use and perceive public space and respond to the threat of criminal behavior.

In the broadest sense, this study contributes to the overall field of social geography by demonstrating, once again, the importance of place "images." Study results indicate that district parks tend to be considered as safe or safer than their surrounding urban and suburban contexts. This overall "image" appears to be as much or more influential in determining park users' evaluations of personal safety than their familiarity with the park, their perceptions of whether other users hold values similar to their own and obey the rules, and their own experience with criminal and other depreciative behavior in the park.

Further, the differences demonstrated between male and female park users' perceptions and behavior, once again point out that males and females, in many ways, may occupy different behavioral and perceptual environments. These different "life worlds," particularly the environmental factors that constrain females' spatial behavior, deserve further attention by geographers if the discipline is to provide relevant insights into real world behavior.

The purpose of behavioral studies in geography is to increase our understanding of the interactions between humans and their environment. There is some disagreement regarding whether work in this area should be directed primarily toward gathering quantifiable information to improve predictive models of behavior and/or decision-making or whether it is

more appropriate to gain a qualitative understanding of how people feel about and operate within the environment. This study touches upon both concerns by identifying, measuring, and comparing the characteristics of a particular type of setting and the people using this environment to the behaviors and "images" elicited, in a consistent and replicable fashion while explicitly examining the link between perception and behavior. At the same time, the more humanist tradition within geography of seeking to understand the meaning and experiential qualities of the environment is not ignored.

Theory development in human geography and leisure studies must inevitably be based on a myriad of case studies. Extensive descriptive work is required to identify regularities before potential explanations can be formulated and tested. Whether the ultimate goal is to predict behavior or to simply understand it, overt behavior and the human perceptions and ideas that produce that behavior must be investigated within many different, unique environmental settings. The regularities and variations that emerge provide the essential building blocks for theories of human-environment interaction.

This study provides one such building block by examining perceptions and behaviors related to a particular type of phenomena within the context of a particular type of setting. It replicates portions of earlier studies in different environments and is, itself, replicable. Further, by concentrating on park settings that are similar in terms of their position along the "recreation opportunity spectrum," it contributes to the development of theory within recreation geography and the interdisciplinary field of leisure studies relating recreation behavior, expectations, and preferences to specific types of recreation settings.

A central question in relating recreation behavior to recreation environments is the "question of how shared images of such places arise and ensure orderly group life" [73,p.71]. Both Lee and Fridgen point out that different types of recreation settings elicit different expectations among users regarding the kinds of behavior that will be acceptable there and that different user groups in the same park may have different images or "implicit theories" about that environment [70,73]. In turn, conflict may arise among users who do not share the same social definition of the park.

Much of the work in this area has concentrated on land use conflicts or depreciative behavior in rural park settings and with user groups such as wilderness backpackers, snowmobilers, crosscountry skiers, and campers. This study provides some information about social order in district level parks located in more urbanized settings. In terms of different user groups' differing social definitions of this type of park, there is some indication that younger park users may have somewhat different ideas about appropriate behavior in these types of park settings than those of older visitors. Survey responses indicate that younger users tend to visit the parks more frequently and are more likely to report witnessing a wider range of depreciative behavior in the park compared to older users. Yet, younger users are somewhat less likely to report feeling unsafe in the park than are the older users. The fact that the majority of survey respondents identified "young people" as the group most likely to cause park problems further suggests that youthful visitors may operate according to somewhat different behavior norms and expectations in the parks. This, however, may be true in many other public settings, as well.

This study confirms the preeminence of people's images or theories about environments in forming their perceptions of particular park environments. Park users' responses to and perceptions of potential safety threats in park environments do appear to differ among park settings. Contrasting wilderness users' and campers' reported perceptions and behavior suggests that as social heterogeneity and the prevalence of "urban" values among setting participants increases, so does the acceptability of formal behavior controls while the proportion of visitors using natural areas in these parks may decrease. It appears that as one moves through the recreation opportunity spectrum from campers to day users of district level urban and suburban parks, these differences become more marked. The use and perceptions of wooded areas, in particular, appear to be affected.

Rural park locations may have a "safe" image associated with small town nostalgia, wilderness ethic expectations, and perceived social homogeneity. Clark, Hendee, and Campbell note that the image of the campground as a safe and crime free environment is as pervasive as it is misleading [80]. Perhaps when people use more urban park settings, larger images of urban problems and behavior norms dominate their perceptions of the park. While urban parks are perceived to be less dangerous than downtown areas, they may be "tainted" by urban images of crime and social diversity. Symbolic expressions of formal control, including a "clean and neat" setting may be more important in parks in urbanized locations than in rural campgrounds to reassure participants about the predictability of the social setting. This may be one reason witnessing litter and vandalism was associated with avoidance behavior in this study. Still, seeing depreciative behavior in the parks does not appear to bother many

of the park users in this study. This implies that either users have considerable faith in formal and informal means of social control to keep this behavior at acceptable levels or they do not perceive these types of behavior as having an impact on their personal use of the park. It is important to study these settings closely and identify just what mechanisms are at work in maintaining social order.

More detailed studies of the influence of depreciative behavior on park users' perceptions and behavior may assist in identifying the types and levels of such behavior that are considered acceptable by different user groups. It is also important to identify how the specific elements of the park environment combine to influence both perceptions of safety and objective risk. For example, this study suggests that groups of young people may be considered threatening in the parks, particularly by women and older users. Future research could evaluate whether it is the absolute number of young people, the number and size of groups of young people, the location or relative concentration of these groups, or the types of behavior they are engaging in which influences whether they are perceived as threatening or not. An interesting and related avenue for future work would be the investigation of young people's recreation goals, needs, and preferences to facilitate their expression in ways or locations that will not have an adverse effect on other park users.

Studies of crime and perceptions of crime in urban parks suggest that parks and areas within parks that attract large numbers of visitors experience the most problems. More research is needed to evaluate whether this is due to increased numbers of potential offenders and/or victims, social diversity, the difficulty of providing adequate supervision

for large numbers of people, certain aspects of the park settings such as designs which do not facilitate informal controls or surveillance or attractions which provide certain criminal opportunities, or to some identifiable combination of these factors. Moreover, the study of safety related perceptions and behavior is an important component in the larger pursuit of identifying those elements of leisure environments that contribute to or detract from setting participants' satisfaction. The findings of this study, for example, suggest that males and females may view recreation settings differently and have somewhat different site specific recreation preferences, needs, and behavior. Further, the importance of temporal variations in park use and perception requires further attention.

Implications and Recommendations for Park Planning and Management

If social controls in the park are to "be designed to fit the moral order of specific user groups," then decisionmakers must identify the moral order or behavior norms of the relevant group or groups and then decide which group's normative order is to be preeminent in program and facility design [73,p.82]. Several studies have demonstrated that recreation management approaches based on the managers' rather than the users' values may have unanticipated or ineffective results [75,80,125, 129]. For example, both Clark, Hendee, and Campbell's study of campers and this study of urban and suburban park users suggests that some depreciative behavior may be "deviance by definition" [80.83,84]. That is, park management may prohibit or discourage certain types of behavior that users do not perceive as detrimental to their recreation experience. In some cases unpopular rules or management practices may be necessary

for resource protection. In other instances, rules based on managers' perceptions of what park users want or need may be at odds with the actual desires of many users.

More to the point, rules that many park users do not agree with are likely to be violated. Alcohol consumption, for example, is illegal in Potter Park, yet nearly half the survey respondents in Potter report having seen people drink alcohol there and 28 percent report seeing this behavior "often." Unenforceable rules, from the practical point of view, may also do more harm than good in parks.

Different user groups may require different types of enforcement controls. While campers and backcountry users appear to respond well to "appeals to help" in litter control efforts, for example, more formal and punitive approaches may be required with other groups or more serious violations [73]. Available research suggests that adolescents and members of "deviant" subcultures may be particularly unresponsive to the types of informal social controls that tend to govern predominantly middle class, family oriented, leisure settings. Visible and effective formal controls and/or physically ejecting or spatially segregating nonconforming user groups may be the only solution.

Effectively barring nonconforming user groups, or strictly regulating their behavior, may not, however, always be the best solution for park conflict problems. In many cases, these individuals may be pursuing legitimate recreation goals. The young people cruising the Potter Park parking lot, for example, were seeking diversion, peer group interaction, and perhaps stimulation and challenge. These are all goals that recreation professionals and park agencies are pledged

to support and facilitate. Eliminating problems by eliminating problem makers often only shifts the location of the problem behavior within the larger park agency or community framework. A more effective, albeit difficult, solution would be to identify alternate behaviors and/or locations to satisfy the needs of these park users. Moreover, the issue of problems relating to young people congregating in parks is part of the larger dilemma of how our society chooses to deal with its young people who often have no jobs, few responsibilities, little parental supervision, and considerable mobility.

More research is needed to identify the effectiveness of various control strategies in different types of recreation settings. Research to date suggests that formal controls may be more acceptable and effective in socially heterogeneous leisure settings than in socially homogeneous sites where informal social controls are recognized by most participants. The nature and expression of both formal and informal controls, too, can vary considerably. Public reaction to the mounted police patrol in Potter Park was considerably more favorable than that received by the officers in patrol cars. Other research suggest that highly visible, "ranger" type enforcement personnel are more positively perceived, in general, than are officers with more standard "police" type appearance. Further, many people in the study parks remarked that they would prefer to see more foot and horse patrols and less car patrol in the parks.

Park agencies and local governments often cannot afford to drastically increase the number of enforcement officers in the parks or re-equip them. Some agencies have increased the level of surveillance in the parks by increasing the number of nonenforcement personnel or

instituting volunteer "clean-up," "host," or "interpreter/ranger," programs. Many feel that these programs provide a low cost method of providing a visible official "presence" in the park and hope they may foster feelings of personal responsibility for the park among site users.

Enforcement agencies and divisions, however, are not uniformly enthusiastic about either changing from a "police" to a "ranger" image or encouraging volunteer patrol programs. Dilution of the symbols of police authority, they argue, can make dealing with trouble-makers in parks more difficult. The ranger's enforcement powers and public duties are perceived by many as different from those of police officers. Many officers also fear that volunteer groups with surveillance responsibilities can too easily get into dangerous situations that they have neither the expertise nor equipment to handle. Others warn that volunteer patrols can become uncomfortably similar to vigilante groups.

Another practical application of research in this area lies in identifying the elements of site design that may facilitate appropriate behavior and/or discourage inappropriate activities. User groups with different recreation goals, preferences, or behaviors might be encouraged to use different parks or different areas within a park through either management or design. Some of the problems in Potter Park, for example, might have been avoided through a parking lot design and enforcement or management policy that discouraged "cruising" and made staying in the parking area less attractive, encouraged young users to congregate in areas that family groups were not forced to pass through, and provided opportunities for park personnel to maintain a more constant,

friendly but watchful eye on their activities. In fact, aesthetically attractive areas where young people can park, cruise, and "hang out" are not necessarily a problem if they are adequately supervised and buffered from other park areas, residences, and transportation arteries.

The overall influence of the physical park landscape on users' perceptions and behavior should also be considered. The results of this study suggest that people using urban and suburban parks may avoid using wooded or densely vegetated areas. A wholesale clearing of vegetative screening in parks, however, is hardly desirable. Selective clearing of underbrush may be appropriate in some areas, particularly those adjacent to parking areas and pathways. The aesthetic value of natural vegetation is essential to most parks' attractiveness and "image." The desirability of clearing vegetated areas depends on what kinds of activities management wishes to encourage or discourage.

Areas designated as ecologic preserves or "natural areas" in urban and suburban parks might best be managed primarily for their aesthetic and educational value, neither expecting nor encouraging more general recreational use. Guided interpretive activities might be emphasized in extensive natural areas to increase their use by a larger proportion of potential users. Thus, people who might be afraid to venture into the woods alone would be accompanied by an "authority figure." Regular patrol and guided walks will also discourage inappropriate use of these areas.

Park managers might be particularly alert to the safety cues in their facilities if they serve or wish to serve a large portion of the female population. This is an especially salient point in urban and

suburban parks where people may wish to visit for a fairly short period of time after work or school or on weekends. Female users might appreciate an area where they feel they can sunbathe or bring their children without fear of harassment. The increasing number of female-headed families makes safe recreation opportunities for women, alone or with other women and children, an important issue. Similarly, park agencies that wish to encourage evening use of their facilities will need to be aware of the elements that influence perceptions of safety during the evening hours. Visibility, lighting, use patterns, and social controls are likely to be particularly important to potential evening users. Park activities may have to be supervised and transportation provided to lure older people and females, in particular, to the park after dark.

Finally, as this study indicates, park agencies need to keep accurate records of the number and types of people using their facilities, activity patterns, depreciative behavior patterns, and enforcement activities. Accurate baseline data is essential to designing and evaluating control and prevention programs. Experimental approaches to behavior control in parks requires accurate, longitudinal data to assess their effectiveness. Under tight budget conditions the cost effectiveness of enforcement activities requires documentation. All park agency personnel want to minimize both the human and monetary costs of criminal and other depreciative behavior as quickly and effectively as possible. Decisionmakers need accurate measurement of the appropriate "hard data," supplemented by thoughtful analysis and insight into the "softer," experiential character of each park and its user population to meet this goal.

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