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PARK USERS LITERATURE REVIEW

DEPARTMENT OF NATURAL RESOURCES

# RESEARCH

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### ABSTRACT

This literature review of outdoor recreation theories precedes a 1986 survey of state park users and nonusers in Wisconsin. The purpose of this review is to identify relevant theories and hypotheses to test in the survey. I reviewed the recent sociological and social-psychological studies of outdoor recreation published in professional journals. While all the publications reviewed are listed in the Literature section, I discuss only those that I consider most useful for the design of the user survey.

I conclude that: few of the study results are generalizable to the public; few studies are concerned with nonparticipants in outdoor recreation; few studies compare participants to nonparticipants; and most researchers agree that age, stage in the life cycle, and occupation are significant influences on recreation participation. Future park user studies should sample from the entire population of users and nonusers and also should examine the reasons for nonparticipation.

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## INTRODUCTION

This literature review is the first part of an effort to learn more about the attitudes, concerns, and motivations of Wisconsin outdoor recreationists. In 1985 I reviewed the literature on outdoor recreation theories in preparation for a survey of the characteristics, attitudes, and preferences of Wisconsin state residents who use and do not use state parks. This user survey was requested by the Bureau of Parks and Recreation of the Wisconsin Department of Natural Resources and was conducted in 1986. The purpose of the literature review was to identify relevant theories and hypotheses to test in the survey.

In this review I discuss the theories that I consider most valuable for the design of the user survey. While I read widely on topics related to user attitudes, I do not discuss every publication here. The Literature section lists all the publications that I reviewed, whether or not they are mentioned in the text.

The conclusions and recommendations in this report were used, not only to design the user survey, but to identify a broader theoretical framework for future research. This framework will be tested against survey data gathered in Wisconsin. In addition, new hypotheses about the leisure and recreation behavior of survey respondents will be tested against this data. The findings will later be applied to specific questions concerning Wisconsin state parks.

## METHODS

I first located and carefully read bibliographies and annotated bibliographies of outdoor or wilderness recreation research publications. I identified studies topically listed as concerning user characteristics, attitudes, or valuations, and selected for review those published since 1960. Not all publications could be located, and not all those located pertained to my objectives. Further publications were selected from references in these publications, going back to 1960 as the oldest publications for review.

I selected 1960 as the publication limit date because many factors influencing recreation trends have changed dramatically in the last 2-3 decades. Population characteristics, such as family size, income, and mean age, have changed significantly because of the influence of the post-war baby boom generation. In addition, factors such as population size and density, as well as the availability of acreage for outdoor recreation experiences, are different enough today from the 1950s and earlier to require a re-evaluation of influences on recreation choices. Thus, results of studies conducted earlier than 1960 would not be fully applicable to today's recreation participants.

Further screening of publications involved the identification of a clearly stated theoretical perspective or well-designed hypotheses. Philosophical treatises or simple restatements of previous studies were omitted. I also omitted studies primarily concerned with either purely psychological variables

(e.g., effects of recreation on personality traits or coping behavior) or with socioeconomic variables (e.g., studies on daily expenditures for campground users or the variables affecting user fees).

Studies were gathered for review through June 1985. All were categorized by the variables studied and the theoretical perspectives used. The studies included here are divided into social-psychological and sociological studies. Social-psychological studies, such as need satisfaction theories, focus on what the individual experiences or perceives and how this affects decisions regarding outdoor recreation. Sociological studies consider the impacts of demographic and lifestyle variables on patterns of recreation choices, as in theories of childhood socialization. The primary difference between these two sets of variables lies in the level of analysis. Social-psychological variables study individuals, their personalities, desires, and personal motivations. Sociological variables concern group characteristics, trends, and perceptions, with the unit of analysis being families, communities, or organizations. Many of the studies combine these two approaches and are classified here based on their primary focus or unit of analysis.

## RESULTS AND DISCUSSION

An exploratory sociological study of the characteristics of Wisconsin state park visitors was conducted in 1958 by Hutchins and Trecker. This study, while not fully representative of all Wisconsin state park users, does show that family income and accessibility of resources correlated with use of the state parks. However, because this study was designed to be descriptive rather than to test a theory, it is difficult to use its findings to support or reject any theoretical orientation. It does indicate that Wisconsin park visitors reported higher average incomes than the median U.S. family income for 1958. It also shows that nearly two-thirds of all the park visitors were Wisconsin residents, rather than tourists from other states. Additionally, rural residents were reported in nearly the same frequency as urban residents.

### SOCIAL-PSYCHOLOGICAL STUDIES

#### Need Satisfaction

Knopf et al. (1973) suggest that the choice of recreation environments and activities is strongly influenced by problem states (the difference between environmental conditions and perceived needs) that cannot be, or are not, resolved in nonrecreational environments. These unmet needs influence the direction, intensity, and persistence of recreation behavior (fishing or hunting or camping, etc.). The authors of this theory define common needs as tension relief, temporary escape, exploration, and experiencing natural stimuli.

Talheim (1973) notes that different recreation resources have different attributes of importance to users, and these can be characterized by enumerating the attributes of the associated recreation experience that users expect. Any choice of recreation type or location involves a decision of tradeoffs among those expected attributes.

If a way can be found to effectively enumerate the attributes of all available recreation choices, the choices can be ranked. Users choose among these possibilities by comparing them, and consistently select the activities and locations that rank highest on the scale. The major problem of this approach is the difficulty of assigning a point value to all attributes of recreation behavior and choices.

In the multiple satisfaction approach, Potter et al. (1973) define recreation satisfaction (specifically hunting) as complex and as the recreation experience consisting of many elements or aspects. These elements may be grouped conceptually into several dimensions, each representing a major aspect of the experience. Those who participate in the same type of recreation are expected to achieve similar levels of satisfaction. Thus, the elements of the recreation experience can be defined and included in a survey with attitude scales (five-point or nine-point scales) to determine relative satisfaction levels for each element. These elements naturally group together as dimensions of satisfaction. Dimensions of hunting satisfaction are nature, escapism, companionship, shooting, skill, vicariousness, trophy display, harvest, equipment, outgroup verbal contact, and outgroup visual contact.

Using the same multiple satisfaction approach, More (1973) defines the dimensions for hunting as aesthetics, affiliation, exploration, challenge, display, pioneering, and kill. Aside from kill, More feels this breakdown can be applied to other forms of recreation behavior. The Potter et al. classification would need simplifying to apply it to forms other than hunting, but it does include useful categories for study.

A version of the satisfaction approach is introduced by Tinsley et al. (1977) and Tinsley and Kass (1978). Their studies suggest that individuals can be grouped according to how they perceive an activity, rated on the basis of that activity's ability to satisfy needs. The selection of leisure activities, then, is based on the perceived ability of those activities to satisfy specific needs.

Similarly, London et al. (1977) suggest that, in designing a model of leisure activity, three attributes be considered: the activities, the needs they satisfy, and individual differences in perceptions of activities and their need-satisfying properties. Three need factors are most significant: feedback (knowing the results of one's performance), liking (would participate if situation arose), and positive interpersonal involvement. Activities are then correlated to these factors. Individuals who rate strongly in one of these need factors are then asked to rate the activity's ability to fulfill these needs. Each group has unique descriptions of activities and perceptions of leisure.

Knowing what needs individuals wish to satisfy when they engage in various types of activities may be sufficient for designing recreation settings that will be of value to, and used by, most individuals, say London et al. (1977). Identifying subgroups demographically may not be necessary to utilize this information.

## Work and Leisure

White's (1975) holistic view of work implies two opposing theories: (1) that work will condition us so that our leisure patterns will resemble work patterns, or (2) the demands of work may not be expansive enough to encompass our talents and needs, thus we may choose leisure activities to fulfill these requirements. White labels the first theory spill over, congruence, suspensive, or continuative. The second he calls contrast, compensation, or regenerative. Proponents of the first theory stress the association between high occupational status and high leisure activity level. White supports this stance, but indicates that: (1) education is the most important predictor of outdoor recreation participation; (2) occupation alone has no independent influence on outdoor recreation behavior; and (3) age, education, and income are more important than work patterns in influencing leisure patterns and choices.

## Motivations for Leisure

Crandall (1980) notes two approaches in the literature to studying motivations for leisure. The first approach asks people why they participate in or enjoy leisure. These approaches focus on needs and satisfactions stated by the respondent. The second approach, which he supports, measures needs and satisfactions as defined by the researcher. Crandall lists 17 needs or groups of needs developed for the study of leisure motivations (Table 1) and stresses the importance of using this list in further research.

## Familiarity and New Experience Theories

Aside from need satisfaction, another factor frequently discussed in reference to motivations is familiarity. Familiarity theories, as opposed to new experience theories, state that we pursue leisure experiences familiar to us or similar to our everyday life (Burch and Wenger 1967, Hendee 1969). New experience theories state that leisure choices are based on the desire to escape everyday life by engaging in sharply contrasting new experiences (Burch and Wenger 1967, Hendee 1969). The new experience theories will be discussed in the section on childhood socialization.

## SOCIOLOGICAL STUDIES

Several sociological factors discussed in the studies are dominant--age, stage in the life cycle, occupation, and place of residence. The most widely debated variable is the difference between rural and urban residence.

## Wildernist vs. Urbanist

Hendee et al. (1968) created a wildernism-urbanism attitude scale that measures these differences. This scale consists of 60 questions that differentiate wilderness-purist attitudes from urban or convenience-oriented attitudes. Each respondent is ranked according to where they fall on the scale ranging from wilderness-purist to urbanist. The authors have discovered that the wilderness-purist (wildernist) users are more likely to have been raised in urban areas, to be better educated, to have more close friends who participate in wilderness-type recreation, and to belong to one or more conservationist organizations or outdoor clubs.

TABLE 1. Motivational categories and items (Crandall 1980).

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<p>1. ENJOYING NATURE, ESCAPING CIVILIZATION To get away from civilization for awhile. To be close to nature.</p>	<p>10. RECOGNITION, STATUS To show others I could do it. So others would think highly of me for doing it.</p>
<p>2. ESCAPE FROM ROUTINE AND RESPONSIBILITY Change from my daily routine. To get away from the responsibilities of my everyday life.</p>	<p>11. SOCIAL POWER To have control over others. To be in a position of authority.</p>
<p>3. PHYSICAL EXERCISE For the exercise. To help keep me in shape.</p>	<p>12. ALTRUISM To help others.</p>
<p>4. CREATIVITY To be creative.</p>	<p>13. STIMULUS SEEKING For the excitement. Because of the risks involved.</p>
<p>5. RELAXATION To relax physically. So my mind can slow down for awhile.</p>	<p>14. SELF-ACTUALIZATION (FEED-BACK, SELF IMPROVEMENT, ABILITY UTILIZATION) Seeing the results of your efforts. Using a variety of skills and talents.</p>
<p>6. SOCIAL CONTACT So I could do things with my companions. To get away from other people.</p>	<p>15. ACHIEVEMENT, CHALLENGE COMPETITION To develop my skills and ability. Because of the competition. To learn what I am capable of.</p>
<p>7. MEETING NEW PEOPLE To talk to new and varied people. To build friendships with new people.</p>	<p>16. KILLING TIME, AVOIDING BOREDOM To keep busy, avoid boredom.</p>
<p>8. HETEROSEXUAL CONTACT To be with people of the opposite sex. To meet people of the opposite sex.</p>	<p>17. INTELLECTUAL AESTHETICISM To use my mind, think about personal values.</p>
<p>9. FAMILY CONTACT To be away from the family. To help bring the family together more.</p>	

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In testing the wilderness-urbanism attitude scale in a survey, Hendee et al. found seven factors (Table 2) that describe the attitude differences between wildernists and urbanists. The authors conclude that wildernists are best differentiated from urbanists in their more positive affinity for natural environments free of human influence. A review of the recreational literature reveals that these seven factors appear repeatedly. Hendee et al. show that wilderness visits are motivated as an escape from the artificiality of contemporary environments into natural settings, untarnished by civilization, where the necessity for a primitive existence yields emotional benefit to the participant (Hendee et al. 1968).

TABLE 2. Cluster analysis on wilderness attitudes (Hendee et al. 1968).

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FACTOR 1. SPARTANISM

Improve physical health; adventure; recapture pioneer spirit; physical exercise; chance to acquire new knowledge; learn to lead simple life; relieve tensions; attain new perspectives; breathing fresh air; emotional satisfaction; getting physically tired.

FACTOR 2: ANTI-ARTIFACTUALISM

Campsites with plumbing; equipped bathing beaches; developed resort facilities; gravel roads; camping with car; automobile touring; camps for organizations; private cottages; powerboating; reservoirs (man-made); campsites with outhouses; purchasing souvenirs; cutting Christmas trees; viewing naturalist exhibits.

FACTOR 3: PRIMEVALISM

Waterfalls and rapids; alpine meadows; timberline vegetation; natural lakes; virgin forest; rugged topography; unchanged natural coastline; native wild animals; vast area and enormous vistas.

FACTOR 4: HUMILITY

Chance to boast; sense of personal importance; chance to stumble onto wealth; picking wild flowers; cutting Christmas trees.

FACTOR 5: OUTDOORSMANSHIP

Camping (backpacking); hiking; mountain climbing; canoeing; sleeping outdoors.

FACTOR 6: AVERSION TO SOCIAL INTERACTION (least important)

Hearing naturalist talks; viewing naturalist exhibits; studying pioneer history; talking with tourists.

FACTOR 7: ESCAPISM

Absence of people; remoteness from cities; absence of man-made features; solitude; vast areas and enormous vistas; tranquility.

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Hendee (1969) summarizes two opposing hypotheses in the study of the effects of urbanization on recreational behavior: (1) as urban population increases, the need for outdoor recreation activities--a return to nature--will increase and (2) as urbanism as a way of life becomes more widespread, there will be a decrease in demand for outdoor recreation. He argues that this problem must be analyzed, as rural-urban differences might be masking or confusing other factors. To study this problem, he investigates several theories, which he divides into two groups: (1) those that explain rural vs. urban recreation differences by the influence of size and density of population, and (2) those that explain these differences by the influence of culture. The first he calls opportunity theory, which implies that participation depends on availability. Since city residents have less opportunity to participate in rural leisure activities, they will be less likely to be involved in them and more likely to be involved in activities available in the city. He found several studies that support this theory.

Hendee's second group of theories emphasizes Americans' love of the ideals of the past where rural, more traditional lifestyles are idealized as superior, and people try to replicate them (Green 1964). These theories also incorporate occupational differences between rural and urban (Schnore 1966a). These theories include the familiarity theories and new experience theories previously mentioned. In contrast to both of these is the childhood socialization theory that I will discuss later. The authors of a final theory in this group state that people raised in a city are less aroused by new stimulations and are more blasé than those raised in rural environments, and thus cannot appreciate to the same extent the benefits of rigor and challenge associated with outdoor recreation activities (Winthrop 1968, Catton et al. 1969). An example would be car camping with much civilized paraphernalia.

Hendee stresses that, to study more fully the rural-urban differences, researchers must classify residence on the basis of local population density, incorporate data on place of upbringing, and measure the extent to which respondents have been exposed to rural living patterns. He emphasizes the importance of controlling for age and using population samples, not just samples of recreationists, to get representative results. He concludes that rural-urban differences, if properly controlled for, may have little real effect on recreation activity, and that it may be more useful to study the influence of other demographic variables.

Schnore (1966a), however, argues that there are real and significant differences between rural and urban individuals, life experiences, and behavior. He offers no data to substantiate his assumptions and merely states that to describe this difference between rural and urban as dichotomous is misleading, and that it should be studied as a continuum.

Kennedy (1973) also feels that the difference between rural and urban is important, and that it would be most demonstrable as a factor in hunter attitudes and preferences in a study of rural vs. urban, by number of days spent afield, attitudes toward doe harvesting, and type of game harvested.

Hauser (1962) includes urbanization as only one of several important demographic factors that influence recreation behavior. The other factors he discusses are decentralization, age structure, households, life cycle of the family, ethnicity and race, and changes in education and labor force participation.

## Available Resources

Hauser (1962) notes that increases in population require increases in land available for recreation, while simultaneously the outward growth of cities results in the annexation of suburban areas and a reduction in the amount of land available for recreation. Also, as the number of households increases, the size of households decreases; therefore, activities that appeal more to families (instead of individuals) will be more in demand. Changes in the age at which significant events occur (i.e., marriage, birth of last child, death of spouse) result in a large increase in time free from childbearing, at the same time that the population is both aging and becoming healthier. All these factors contribute to greater demand for recreation areas. Yet the average amount of space/person in the population will continue to fall. With increasing urbanization, however, he hypothesizes that demand will fall as people adapt to urban lifestyles that require less space outside of the urban environment. Of these factors, population growth seems to be the most significant factor in an increase in demand for outdoor recreation, while the factors of urbanization and metropolitanization cause a decrease in demand as persons adapt to urban life. The other factors influence these trends to lesser degrees, helping to shape the types of activities most likely to be in demand.

Kelly (1978) hypothesizes that leisure activities are chosen individually by access to resources, finances, opportunities to acquire skills, social status expectations, personality attributes and self-images, and the circumstances in which the decision is made. For communities, the choice of factors is between population characteristics and available resources.

Comparing leisure activities in three communities, Kelly attributes most differences to available resources. The communities are a college town in the Colorado mountains, a suburban community outside an eastern city, and a mill town. He finds a more outdoor/wilderness orientation in the community nearest mountains and lakes, more organized school activities in the suburb, and fishing dominant in the mill town. However, using communities as the unit of comparison, orientations among the three are remarkably alike, except for differences attributable to environmental, climatic, and opportunity differences. Kelly concludes that those who decide which leisure opportunities will be available in space, equipment, and program planning may be the main social determinants of leisure activity. "If, indeed, access to natural and built environments is the major factor differentiating community leisure patterns, then leisure is a thoroughly political phenomenon" (Kelly 1978).

## Life Cycle and Childhood Socialization

Burch and Wenger (1967) compare, not leisure participants to nonparticipants, but different types of campers: remote, easy access, and combination campers. They discover that campers without children are more likely to be remote campers. As they begin to rear children, these campers do both back-country and roadside camping. When their children are between 5 and 14 years, they do only roadside camping, but return to remote camping once the children mature and leave home. Only when they reach age 65 do these campers return to roadside camping.

Burch and Wenger hypothesize that childhood camping experiences affect adult camping behavior. Those who have pleasant camping experiences as children are more likely to camp as adults. The earlier and more intense the contact with nature, the more likely the adult will seek out the same. Those with the childhood experience of hiking or auto camping with parents are more likely to be remote or combination campers than easy-access campers. Additionally, Burch and Wenger discover that city dwellers are more likely than rural residents to be campers. Those rural residents who do camp are more likely to be remote campers, while small town residents and suburbanites are more likely to be easy access campers. They find that income has apparently no effect on camping style, though camping itself seems to be over-represented among higher income individuals, as well as those with higher education (27% of the sample of campers had post-graduate work, compared to 5% of the general population with that degree of education). This was the only point where they compare their sample survey to the general population. The study also shows that campers are more likely to be professional, technical, clerical, and sales workers and less likely to be managers, proprietors, factory operatives, laborers, and farmers. Thus, occupation seems to be a factor of the amount of leisure time available.

Burch and Wenger conclude that people do not seem to seek out leisure experiences similar to their everyday activities (familiarity theory), nor to escape to activities sharply different from their everyday lives (new experience theories). Instead, they seem to choose activities pleasantly familiar from childhood experiences (Hendee 1969), with perhaps a bit more challenge than those who had not experienced it before. This study further suggests that these "old hands" feel crowded and dissatisfied with easy access camping when new recruits are there, and move on to more remote experiences as their stage of the family life cycle permits.

Burch (1966) further argues that all forest recreation activities are unappealing to most elderly individuals. Most wilderness management practices appeal to the minority, unfairly depriving elderly citizens and young families of recreation opportunities. He warns that management goals should include all aspects of use based on life cycle.

### Users vs. Nonusers

Few studies have observed nonparticipants. Mueller and Gurin (1962) cite the most common reasons for not participating in outdoor recreation experiences: lack of time (52%); expense (17%); ill health/old age (11%); family ties (11%); and lack of available facilities (9%), car (5%), and equipment (4%). They note that since incomes are rising and leisure time is increasing, there is likely to be a rise in participation. The authors also suggest that income, education, occupation, place of residence, region, sex, age (stage in life cycle), and race are important factors to consider. Their study concludes that:

1. Park visits occur most frequently among higher social status groups (higher income, more vacation time, business or professional occupations).
2. Visitors are more likely to be in the upper middle income bracket.
3. Rural or urban residence shows little relationship to visiting patterns.

4. There was no evidence that urbanites lose their taste for the outdoors.
5. The stage in a life cycle is a strong influence.
6. Regional distribution of parks affects visiting patterns; distance is a barrier for those who live far from parks.

Mueller and Gurin note that participation increases with income to a point, then decreases. Marital status and the presence of children, as well as age, do not independently affect participation, but do combine with income and sex to influence visitation. Women and men report the same numbers of activities, but they vary slightly in type. Age affects activity level, but not activity type. Greater differences are seen between men and women when age, income, and other social status variables are examined.

Mueller and Gurin find that rural-urban differences are small and gradually disappearing, except for gardening (which urbanites have less opportunity to practice) and attending plays and concerts and visiting museums (which rural residents have less chance to do). Education correlates positively with leisure activity, as does income. The authors find that camping motivations include the desire to escape from formalities and to get outdoors, family togetherness, economy, and the feeling that it is a good experience for the children. Barriers to participation are age, lack of experience, and desire for comfort and service.

Like Burch and Wenger, Hendee et al. (1968) discuss participation variables and their distribution among users of recreation areas. They studied wilderness users in the Three Sisters Wilderness Area of Oregon and found that these users were mainly young to middle-aged adults, although all age groups were represented. More than 60% of their sample of respondents came from the top 10% of the U.S. population in educational attainment. Those with at least some college education were far more likely to be wilderness users than were persons with high school educations or less, and those with post-graduate educations were even more likely to be wilderness users. Couples with children visited the wilderness far more frequently than childless couples, and about one-half of all wilderness use was by small family groups.

Hendee et al. find that wilderness use was equally common among persons of either rural, small town, or urban upbringing. However, those with urban backgrounds were more wilderness-purist in outlook than those reared in rural areas. Seventy percent of the respondents indicated that their first wilderness trip was before they were 15 years old. Forty-four percent indicated that three or more of their five closest friends participated in wilderness-type recreation (reinforced social behavior). Thirty percent belonged to at least one conservationist group or outdoor club. Harry (1970) notes that membership in a conservationist organization is associated strongly with upper-middle class occupations, especially professional, as well as urban location. Members of these organizations visit the wilderness more frequently, are more likely to go with organized groups, have close friends who are wilderness users, are slightly better educated, and have more wilderness-purist orientations than nonmembers.

King (1968) finds that the factors most strongly affecting whether or not a family camps are income, occupation and education of head of household, and the number and ages of children. The amount of camping is influenced by occupation, age, years of camping experience, income, type of camping shelter, education, age of youngest child, and destination of the trip.

The user who does not visit a wilderness at a young age, according to Cicchetti (1972), may have greater expectations for a pristine experience and be more likely to view the wilderness as a resource that should be undeveloped. Rural residence leads to a utilitarian view of wilderness, rather than as something to be preserved. Knowledge and experience gained from childhood hiking have a tendency to increase the preference for a pristine wilderness. Membership in a conservation organization tends to increase with age, education, and income, as well as childhood experience. Cicchetti notes too that the amount of experience as a child, age at first visit, etc. are all factors in predicting attitudes toward, as well as activity level in, outdoor recreation.

Finally, Romsa and Hoffman (1980) demonstrate the use of nonparticipation data in recreation research and show that bias may be introduced into recreation studies through the implicit acceptance of the opportunity theory when developing participation models. They define the opportunity theory as the assumption that, all things being equal, individuals from different segments of society have the same propensity to participate in a given outdoor recreation activity. If barriers exist, some people will participate less than desired. Thus, participation rates are a function of the cost and the time required to participate, as well as the availability of outdoor recreation facilities to the public. Thus, if these barriers are removed, individuals from lower socioeconomic groups would participate in available recreation opportunities as often as those from higher socioeconomic groups.

Romsa and Hoffman show that the opportunity theory seems to operate for only 43% of the sample population, leaving 57% unexplained. Users, they find, stress lack of time, money, and facilities as barriers to participation, while nonusers state lack of interest as their main barrier. If these responses accurately reflect people who do not participate in outdoor activities, the universal application of the opportunity theory may not be feasible. Romsa and Hoffman suggest that more emphasis be given to factors that account for an individual's perception and later use of recreational opportunities, especially among the less active members of the recreation population. The availability of recreational opportunities may be more important barriers to participation than time and cost. To study nonparticipants, the focus should be on determining the factors responsible for the apparent lack of interest. Also, what activities might this group perceive as stimulating? Should recreation policies attempt to meet the needs of this segment of the public, and if so, how?

## CONCLUSION

Reviewing these studies has revealed the following conclusions:

1. Few of the study results are generalizable to the public.
2. There are few studies of nonparticipants in outdoor recreation.
3. Few studies compare participants to nonparticipants.
4. Most researchers agree that the factors of age, stage in the life cycle, and occupation are significant influences on recreation participation.

Most of the studies concern only participants in wildlife recreation areas, where study populations are obtained by sampling trail registers or interviewing park users. This emphasis on users leads only to findings that compare types of users to other types of users, and reveals nothing about nonusers. Studies of need satisfactions are particularly biased in this way, because they describe participants' needs, assuming that these needs are different from those of nonparticipants, without defining those differences. If the study of needs conducted using a general sample of respondents, it might be discovered that the needs of the two groups are the same. Thus measuring need satisfaction may not be a reliable way to differentiate those who seek out wilderness experiences from those who do not.

Many of the researchers show that recreation choices are affected by the same factors--age, stage in the life cycle, and residence. Interpretation of how these factors influence participation varies, however, and may even be contradictory. In many of the social-psychological studies, the tendency for persons to choose certain recreation activities is related to the feelings of satisfaction they derive from those activities. The researchers vary widely in defining how this satisfaction is obtained or what needs the participants have.

Several authors cite the effect of occupation on recreation choices. Yet they do not agree on the direction and strength of this correlation. In some studies, leisure patterns are hypothesized to be similar to work patterns; in others they are seen as different. Other authors indicate that occupation alone has no effect on recreation choices, except as these choices are influenced by other factors such as income and education.

The greatest disagreement among the researchers concerns the effects of residence on recreation choices. Rural and urban residents are seen as different in most studies, but the explanations for these differences vary widely.

Finally, the authors show that age and life cycle are important factors in recreation choices and activity level. The most active persons are young adults, but their activities vary according to the presence and ages of children in the family. The authors disagree on the interpretation of these age and life cycle results.

## RECOMMENDATIONS FOR FURTHER RESEARCH

Further park user studies should sample from the entire population of users and nonusers. Levels of use could be differentiated for comparative purposes between users, but the comparison of recreation participation to nonparticipation would be more useful to park planners. Important demographic and sociological factors to study include point in the life cycle, or stage of family growth of the respondents; residence (rural/urban based on population densities); income; opportunity to experience wilderness settings; barriers to use of park services; age; childhood wilderness experience; childhood residence; and expectations and attitudes of the responders about wilderness settings.

Further studies also should examine the reasons for nonparticipation. Are the major barriers lack of interest, time, money, or access to facilities? Some of these factors have policy implications because they can be manipulated; others may be changing and have implications for future park demand. If interest is indeed the major barrier, as Romsa and Hoffman suggest, perhaps a useful question to explore is what would make an outdoor recreational experience more interesting? Including these items in future studies will not only add to the knowledge of recreation, but will help in making policy decisions about our parks and wilderness areas.

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