

SOCIAL-PSYCHOLOGICAL IMPLICATIONS
FOR RECREATION RESOURCE PLANNING¹

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INTRODUCTION

Many claims have been made concerning the cause/effect relationship between recreation and leisure activity, and the acquisition of quality living. Studies have investigated the utility, quality, and quantity of recreation facilities. Studies of programs, leadership, members, and general classifications of users have also been conducted.

If leisure participation is need-fulfilling behavior that is learned, motivated by and predicated upon the individual's personality, then we need to study the relationships between this behavior and the needs fulfilled by it. Works of several individuals show that trends are developing in attempt to further understand recreative behaviors of the participant populations. Researchers such as Hendee, Driver, Brown, Moss and Gray are beginning to explore user traits and activity relatedness.

This paper is a presentation of results, and discussions, of three studies conducted to explore possible relationships between participation in selected outdoor leisure activities and fifteen personality variables in volunteer subjects. Specially designed

Outdoor Recreation Activity Questionnaires were used to measure the rates of participation. The Edwards Personal Preference Schedule and the Adjective Check List were used to measure personality variables.

The three studies were conducted with subjects from the Appalachian State University in North Carolina, the University of Georgia, and Mississippi State University. The studies in Georgia and Mississippi included white and black, male and female college students. These studies offer three separate opportunities to examine the effect of clustering outdoor recreation activities, and the clustering of personality traits based on the characteristics of respondents. The studies show several similarities in the needs that are being met by activities. There are also similarities in the order of activity clusters and need clusters, but different techniques were employed and the studies' results are not fully comparable.

METHODS

The study involving subjects from North Carolina used the Adjective Check List (ACL) to measure the personality traits and the Outdoor Recreation Participation Questionnaire

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(QRPQ) to measure outdoor leisure participation. Volunteer subjects for the studies in Mississippi and Georgia were administered similar instruments -- the Edwards Personal Preference Schedule (EPPS) and the Outdoor Recreation Activity Questionnaire (QRAQ). In all cases, participation rates and the needs were "factor analyzed" to obtain clusters of outdoor recreation activities and personality traits; this procedure clusters entities according to their similarities. A matrix of interpersonal similarity coefficients is computed by the program, and this matrix is "searched" for patterns of similarities (Cattell, 1966).

For the Mississippi and North Carolina studies, Canonical Correlational Analysis was used to determine if a relationship existed between the two variable sets - activity clusters and trait clusters. This procedure provided an indicator of the maximum relationship that existed between the two variable sets, and also calculated the relative contribution of each variable to the relationship.

RESULTS AND DISCUSSION

A. Clusters

It is postulated that there is a measurable interrelationship between motives or need-states and leisure activities. It is suggested that a particular activity may be related to several needs, but is more likely to serve similar needs for similar people. Also several activities may be related to the same or similar needs of leisure resource users.

Activity clusters formed by Factor Analysis seemingly have much face validity, and they are correlated statistically. For example, in white males of the Georgia study (Table 1), Cluster 1 involves three walking activities -- hiking, nature walks, and walking for pleasure. Cluster 3 is water based -- boating, water skiing and sunbathing. Cluster 5 is composed of the typical "sportsman's" activities -- camping, fishing, hunting, target shooting and archery. Similarly, activity cluster results are reported for black males and white females (Table 2,3,4).

The North Carolina activity data divides into seven activity clusters (A1-A7) in table 5. Activity cluster one (A1) includes the following activities: sightseeing, walking for pleasure, attending outdoor social functions, automobile riding for pleasure, jogging, picnicking, and nature walks. A1 is referred to as the "Nature-Pleasure" cluster. Cluster A2 is comprised of the following activities: horseshoes, golf, touch football, softball or baseball, basketball, miniature golf, attending

TABLE 1
Activity and Need Relationship
for White Males (Georgia)

| Activity Cluster | Activities | Need Cluster | Needs |
|------------------|-------------------------------------------------------------------|--------------|-------------------------------------------------------|
| 1 | Hiking Nature walks Walking for pleasure | 1 | (-) Order (+) Affiliation (+) Nurturance |
| 2 | Picnics Horseback riding Tennis Bicycling Sightseeing | 2 | (+) Intraception |
| 3 | Boating Skiing (water) Sunbathing | 3 | (-) Dominance (+) Abasement (-) Heterosexuality |
| 4 | Canoeing Skiing (snow) Cave exploring Mountain Climbing | 4 | (-) Achievement (-) Exhibition |
| 5 | Camping Fishing Hunting Target shooting Archery | 5 | (-) Succorance (+) Dominance (+) Change |
| 6 | Automobile riding | 6 | (-) Deference (+) Autonomy |

TABLE 2
Activity Cluster and Need
Cluster Relationship (Mississippi)

| Activity Cluster | Activities | Need Cluster | Needs |
|------------------|--------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------|
| 1 | Boating, large reservoirs Horseback riding Swimming, lakes Motorbike, street Fishing, large reservoirs | 1 | (+) Affiliation (+) Nurturance (-) Aggression |
| 2 | Fishing, rivers Canoeing, rivers Hunting, small game Hunting, bird | 2 | (+) Achievement (+) Dominance (-) Succorance |
| 3 | Hiking Nature walks Walking for pleasure Sightseeing | 3 | (+) Heterosexuality (-) Abasement |
| 4 | Camping, trailer Canoeing, lakes & large reservoirs | 4 | (+) Order (-) Change |
| 5 | Fishing, lakes Boating, rivers Mountain climbing Sightseeing | 5 | (-) Nurturance (+) Intraception (+) Dominance |

TABLE 3
Activity Cluster and Need
Cluster Relationship (Mississippi)

| White Females | | | |
|------------------|--------------------------------------------------------------------------------------|--------------|------------------------------------------------|
| Activity Cluster | Activities | Need Cluster | Needs |
| 1 | Swimming, rivers Sailing Scuba, sea | 1 | (+) Exhibition (-) Intraception |
| 2 | Boating, large reservoirs Motorbike, street Canoeing, large reservoir | 2 | (+) Order (+) Aggression (-) Affiliation |
| 3 | Canoeing, rivers Hunting, bow & arrow Snow skiing Scuba, lakes & reservoirs | 3 | (+) Exhibition (-) Intraception |
| 4 | Camping, trailer Bicycling Touch football | 4 | (+) Dominance (-) Abasement |
| 5 | Nature walks Walking for pleasure Sightseeing | 5 | (+) Succorance (-) Change (-) Autonomy |

TABLE 4
Activity and Need Relationship
for White Females (Georgia)

| Activity Cluster | Activities | Need Cluster | Needs |
|------------------|-----------------------------------------------------------------|--------------|---------------------------------------------------------------------|
| 1 | Horseback riding Attending outdoor sports concerts, drama | 1 | (+) Order (-) Affiliation (-) Nurturance (+) Endurance |
| 2 | Hiking Nature walks Walking for pleasure | 2 | (+) Autonomy (+) Change |
| 3 | Boating Skiing (water) Sunbathing Automobile riding | 3 | (+) Deference (-) Autonomy (-) Aggression |
| 4 | Picnics Swimming Sightseeing | 4 | (-) Achievement (-) Succorance (-) Dominance (+) Abasement |
| 5 | Skiing (snow) Golf Target shooting | 5 | (-) Exhibition (+) Intraception (-) Heterosexuality |

TABLE 5
Activity Clusters: Content and Identification

| Cluster Number | Activity | Identification Factor |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| A1 | Sightseeing Walking for pleasure Attending outdoor socials Automobile riding for pleasure Jogging Picnicing Nature walks | Nature-Pleasure |
| A2 | Horseshoes Golf Touch football Softball or baseball Basketball Miniature golf Attending outdoor sporting events Tennis | Social Sports |
| A3 | Fishing Hunting (small game) Target Shooting | Predator Sports |
| A4 | Primitive camping Hiking (with packs) Horseback riding | Nature/Conqueror-Horses |
| A5 | Bicycling Motorbike riding Attending outdoor concerts, drama | Bike-Concerts |
| A6 | Swimming (lake, river ocean) Swimming (pool) Motorboating Water skiing Sunbathing | Water-Orientation |
| A7 | Sledding or Tobogganing Snow skiing | Winter Sports |

outdoor sporting events, and tennis; this cluster is primarily oriented toward "Social Sports". A3 is made up of fishing, hunting (small game), and target shooting, which is identified as "Predator Sports". Primitive camping, hiking (with packs), and horseback riding comprise the fourth activity cluster, A4. This cluster is referred to as "Nature/conqueror-Horses". Bicycling, motorbike riding, and attending outdoor concerts (drama) make up the fifth activity cluster, A5, which is identified by the key words "Bike-Concerts". A6 identifies "water-oriented" activities, and includes: swimming (lake, river, ocean), swimming (pool), motor boating, water skiing, and sunbathing. Sledding or tobogganing, and snow skiing, form the last activity cluster, A7, representing "Winter Sports".

Three clusters (T1-T3) were obtained for the fifteen personality traits (Table 6). T1 contains (+) achievement, (+) dominance, (+) endurance, (+) order, (+) intraception, (-) succorance, and (-) abasement. This cluster is discussed as the "Leadership-Organization" factor. Trait cluster T2 is made up of the following traits: (-) exhibition, (-) autonomy, (-) aggression, (+) abase-

ment, (+) deference, and (-) dominance. This cluster is referred to as the "Subordination-Guilt" factor. (+) Nurturance, (+) affiliation, (+) heterosexuality, and (+) change comprise the third trait cluster, T3, and is identified as the "Socialization-Change" factor.

Results of the study on black males and females show that their needs are only a little different from those of white subjects; these differences are accounted for by such factors as culture, opportunities to participate, availability of facilities and the location of residence. With the current trends toward narrowing social and cultural gaps between various ethnic and cultural groups, it is becoming imperative that leisure facilities be planned while taking into consideration all of these groups.

TABLE 6

Trait Clusters: Content and Identification

| Cluster Number | Traits (+ or -) | Identification Factor |
|----------------|---------------------|-------------------------|
| T1 | Achievement (+) | Leadership-Organization |
| | Dominance (+) | |
| | Endurance (+) | |
| | Order (+) | |
| | Intracception (+) | |
| | Succorance (-) | |
| T2 | Abasement (-) | Subordination-Guilt |
| | Exhibition (-) | |
| | Autonomy (-) | |
| | Aggression (-) | |
| | Abasement (+) | |
| | Deference (+) | |
| T3 | Dominance (-) | Socialization-Change |
| | Nuturance (+) | |
| | Affiliation (+) | |
| | Heterosexuality (+) | |
| | Change (+) | |

Results of these studies indicate that blacks do participate in activities which were traditionally considered for whites only.

B. Correlations

For the North Carolina data a Canonical Correlation Analysis was made, in addition to clustering, to determine if a relationship existed between the two variable sets -- activity clusters and trait cluster. Analysis shows all of the activity clusters except one (A4) to be significantly correlated with the set of trait variables at the .01 level. These correlations are the major contribution of this paper to outdoor recreation trend researchers.

A1 Nature-Pleasure. The "Nature-Pleasure" oriented activities (A1) are most participated in by individuals scoring high in the "Socialization-Change" cluster (T3). These activities are enjoyed by both sexes. The point is that the desire for social contact within an outdoor setting seems to be the primary motivation for activity, rather than participation in an object-oriented skill. Lack of structure and competitiveness characterizes both the activities and the users. Lack of participation on the part of individuals scoring high in T2 is somewhat surprising, in that activities such as sightseeing, walking for pleasure, and nature walks can be isolated experiences. Perhaps the crowding effect of users upon resources has paid its toll on the participation level of introverted users. Then again, perhaps the "Subordination-Guilt" oriented individual has never been a participant.

A2 Social Sports. Participants in "Social Sports" (A2) demonstrate the same trait orientation as participants in A1. Competition is more of a factor in A2, but the socializing characteristic is still evident. Once again, introverted individuals do not participate in social sports. The lack of any correlation with extroverted individuals suggests that participation by these individuals is neither significantly present nor absent. The popularity of activities enjoyed by both sexes is of growing importance. Perhaps the current drive for "equality" is evident in the correlation of these activities and the related needs.

A3 Predator Sports. The more dominant and aggressive traits evidenced in T1 were significantly correlated to A3. This supports Moss' contention that hunters and fishermen are more traditional, dogmatic, and rigid. The "predator-prey" or "lording over" motivation is apparent in this correlation. Quite naturally, then, the negative effect of T2 and A3 is evident. Perhaps it can be concluded that these more rigid individuals do not appreciate the intrusion of other people.

A4 Nature Conqueror/Horses. The relationship between A4 and the set of trait variables was not significant at the .01 level, but in the step-wise analysis it was noted that "Subordination-Guilt" oriented individuals tended not to participate in primitive camping, hiking (with packs), and horseback riding.

A5 Bike/Concerts. Specific personality traits positively correlated with A5 were not obvious, though a negative correlation with T2 was reported. It was thus assumed that the introverted "Subordination-Guilt" oriented persons did not participate in faddish activi-

ties such as bicycling, motor bike riding, and outdoor concerts (perhaps "Rock Festivals"). The lack of a specific, positive identity of individuals participating in these activities may be due to the faddishness of the activities.

A6 Water Oriented. Water oriented activities were most participated in by those scoring high in T3 and least participated in by those scoring high in T2. Once again it becomes apparent that the introverted "Subordination-Guilt" oriented individual is not active in outdoor activities. The question of reaching these individuals is pertinent to recreology. Participation in water activities (other than fishing) seemed to be mostly inspired by the social contact involved rather than the goal of individual accomplishment. Most certainly, competition in water activities is important, but to the leisure resource planner it is not a dominant factor.

A7 Winter Sports. The correlation of all trait clusters to winter sports indicates that these activities are somehow both competitive and socializing in nature. Perhaps more detailed study concentrated on outdoor winter activities would yield a more precise measurement of activity-trait correlations.

Overview, A1-A7. An overall view of the relationship of personality traits or needs to outdoor leisure activities seemed to indicate a strong socializing motivation in most activities. Introverted personalities have little opportunity for involvement. It is becoming increasingly likely that aggressive, goal-oriented, dogmatic individuals are being crowded in their participation and forced to compromise in their activity.

IMPLICATIONS

Perhaps by now some of the practical implications of this type of research are apparent. Personality traits and activity clusters are the real units of measure of outdoor recreation. If we are to be successful in providing the best possible outdoor recreation experiences to the public, we must understand (1) which activities are similar and dissimilar, and (2) what users are actually getting out of their recreation. It is not enough to simply offer "picnicking" and count the users.

How do we use the information? Perhaps we will conclude that several related activities should be offered at the same recreation area -- cater to a given kind of user. Results suggest that some activities -- actually users -- need to be insulated from others; it is likely that where dissimilar activities are juxtaposed, a lessened recreation experience

occurs by a sort of conflict which has not been apparent. Alternately, perhaps we will want to be dollar efficient, and not offer duplicative activities. Or perhaps we should spread like activities at several locations to give users a variety of settings from which to choose for recreation. Maybe we can save money by providing an activity that costs less but meets the desired need.

Once we know what "rewards" people are seeking, managers can not only respond to current users but also to persons who are not currently recreating because what they need is not available. Planners can devise recreation settings and perhaps facilities and activities that deliver desired rewards, i.e. respond to groups with known personality traits. They can devise, emphasize, and perhaps even create improved products.

However, we make no claims at this point about whether people are consistent in what rewards they seek, or whether they seek different experiences at different stages in their life, or even from day to day. Neither do we know the effect of one member in a group on others. Do a group of teenagers exhibit needs that are the average of member's individual needs, or is a range needed at a recreation site? Does a family have a complex set of requirements, and does that set of requirements depend on which members are present, or their age, and so forth? Clearly, there are many things we do not know.

This research offers a "window" to greater understanding. Through it we can learn to respond better to our publics. Through it we can more efficiently plan, acquire, develop and even maintain and operate our outdoor recreation areas. Four problems must be overcome to "enlarge the window". First, more research of this sort needs to be conducted to expand, clarify and confirm findings. Second, we must learn how to apply this new knowledge throughout all aspects of outdoor recreation management. Third, how will this information be disseminated; how will we get recreation management to accept and apply these findings. Fourth, and finally, is there an ethical problem: does broad collection of this kind of information involve invasion of privacy? Beyond that, does it put us in a position of having power over our constituents -- of molding and shaping them to be what the managers or agency or firm wants. Let us hope these problems can be overcome.

TABLE 7
Relationship Between Activity
Clusters and Trait Clusters

| Activity Clusters | Trait Clusters |
|----------------------------|----------------------------|
| A1 Nature-Pleasure | T3 Socialization-Change |
| A2 Social Sports | T3 Socialization-Change |
| A3 Predator Sports | T1 Leadership-Organization |
| A4 Nature/Conqueror-Horses | (-) T2 Subordination-Guilt |
| A5 Bike-Concerts | (-) T2 Subordination-Guilt |
| A6 Water-Orientation | T2 Subordination-Guilt |
| A7 Winter Sports | T1 Leadership-Organization |
| | T2 Subordination-Guilt |
| | T3 Socialization-Change |

Gray, D.E., 1980. What is this thing called recreation? Parks and Recreation, Vol. 15, No. 3.

Hendee, J.C., 1971. Sociology and applied leisure research. Pacific Sociological Review, Vol. 14, No. 3, 306-68.

Moss, W.T., and Lamphear, S.C., 1970. Substitutability of recreational activities in meeting stated needs and drives of the visitor. Environmental Education, Vol. 1, No. 4, 129-31.

REFERENCES

Bhullar, H.S., 1970. Personality and Outdoor Recreation: A study of outdoor recreation as need fulfilling behavior in Whites and Blacks, Unpublished Ph.D. dissertation, University of Georgia.

Cattell, R.B., 1966. The Taxonomic Recognition of Types and Functional Emergents, Handbook of Multi-variate Experimental Psychology, Chicago: Rand McNally and Company.

Driver, B.L., and Brown, P.J., 1975. A socio-psychological definition of recreation demand, with implications for recreation resource planning. Appendix A. In Assessing Demand for Outdoor Recreation Washington, D.C.: National Academy of Science. Reprinted by the Bureau of Outdoor Recreation, USDI.

Edwards, A.L., 1959. Edwards Personal Preference Schedule Manual, New York: Psychological Corporation.

Everson, A.R., 1978. Standards in State Comprehensive Outdoor Recreation Planning: A Methodological Study, Unpublished Ph.D. dissertation, Texas A&M.

Gunn, S.L., 1972. A comparative study of selected personality traits in college students and their participation in selected outdoor recreational activities, Unpublished Ph.D. dissertation, University of Georgia.