CAMPGROUND FEATURES ATTRACTIVE TO MICHIGAN STATE PARK CAMPERS

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ABSTRACT

CAMPGROUND FEATURES ATTRACTIVE
TO MICHIGAN STATE PARK CAMPERS

By

Ronald Wayne Hodgson

In 1967, Carlton S. Van Doren reported the development of an interaction travel model for predicting attendance at State Park campgrounds in Michigan. The inadequacies of the attraction index component of the model prompted this investigation. It is hoped this study and others like it might eventually result in an adequate attraction index that, when used with tools such as Van Doren's model, will permit a more efficient use of resources in the provision of facilities for recreational camping.

A set of most-attractive State Park campgrounds is compared to a set of least-attractive State Park campgrounds in an effort to identify some of the physical, relatively permanent features that might account for differences in campground attractiveness. Only State Park campgrounds in Michigan's lower peninsula are considered. For measurement purposes, the attractiveness of a campground is defined as the average length-of-stay by camping parties registered there. The most-attractive set of campgrounds consists of those with average lengths-of-stay in excess of one standard deviation above the mean. Least-attractive campgrounds were those with average lengths-of-stay smaller than one standard deviation below the mean.

Three categories of campground features are specifically compared with average length-of-stay. The first, named the "services", includes such variables as laundry, boat launch, and camper's store. The second, named "recreational opportunities", includes variables like the provision of swimming at the campground, trails, and fishing. The third, "the activity potential of recreational water adjacent to the

campground", includes variables like the composition of the wet and dry beach, the provision of life guards, and whether the body of water is a stream, inland lake, or Great Lake. In addition, a general reconnaissance of the campgrounds and interviews with users suggested several new hypotheses.

Data were arranged in 2x2 contingency tables and apparent relationships were tested with the Fisher exact test. The significance level for hypothesis testing was set at .10. Mapping, crossbreaks, and inspection of tabled data generated the new hypotheses which remain to be tested using independent data.

The hypotheses and the results of the research briefly summarized are:

Hypothesis I. Campgrounds in the most-attractive set will score higher on the Recreational Opportunities Scale than will campgrounds in the least-attractive set. The relationship was not significant, ($p=.11+$). However, there was a significant relationship between the availability of swimming at the campground and average length-of-stay. ($p\leq.05$);

Hypothesis II. Campgrounds in the most-attractive set will score higher on the Services Scale than will campgrounds in the least-attractive set. The relationship was not significant. However, most-attractive campgrounds were significantly more likely to have a boat launch than were least-attractive campgrounds. ($p\leq.05$);

Hypothesis III. Adjacent recreational water will have higher indices of Activity Potential for campgrounds in the most-attractive set than for campgrounds in the least-attractive set. The relationship was significant. ($p\leq.005$).

In addition, it appears that:

Less crowded campgrounds may be more-attractive than more crowded campgrounds;

Campgrounds built on rolling terrain may be more-attractive than campgrounds built on level terrain;

There may be a preference for campgrounds located to the west in Michigan;

Campgrounds offering views including little permanent evidence of man may be preferred to those which offer views of more developed areas;

Proximity to the recreation resource may be as important as proximity to the user's home in determining campground attractiveness.

The major limitation of the study results from the difficulties of measuring the independent variables. Even where there was relatively clear indication in the literature that a class of variables such as services would be related to attractiveness, it was impossible to evaluate the probable relative importance of specific services or to devise a comprehensive list. In addition, the ability of the study design to identify attractive features depends upon the existence of the feature within the population of campgrounds studied and upon some variation in that feature among the campgrounds.

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CHAPTER I

INTRODUCTION

> Quality, as applied to outdoor recreation, is hard to define and to measure; yet, everyone with any experience, as consumer or as manager of a recreation area, will agree that it exists.[1]

Purpose

In 1967, Carlton S. Van Doren reported the development of an interaction travel model with which he sought to explain and predict the spatial distribution of camping activity among Michigan State Parks.[2] One of the critical components of the interaction travel model is a campground attraction index. Mr. Van Doren's index included natural resource variables, activity opportunities, and facilities and services at the park. Elements for the scale were drawn from a number of empirical studies and were ranked and weighted judgmentally.

In spite of some success in predicting use of State Park campgrounds, the attraction index proved inadequate and Van Doren suggested an extensive revision. It seemed possible there might be some as yet unidentified variable or set of variables the addition of which would strengthen and simplify the attraction index proposed by Van Doren. Consequently, this systematic search was designed with

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[1] Marion Clawson and Jack L. Knetsch, Economics of Outdoor Recreation (Baltimore: Johns Hopkins, 1966), p. 164.

[2] Carlton S. Van Doren, "An Interaction Travel Model for Projecting Attendance of Campers at Michigan State Parks: A Study in Recreational Geography" (unpublished Ph.D. dissertation, Department of Geography, Michigan State University, 1967).

the modest aim of identifying some new campground features still unstudied and of determining the way in which they vary with campground attractiveness.

In addition to the search for new explanations of campground attractiveness, three hypotheses suggested in the literature were tested. Each of the three has been accepted in other areas or with other operational definitions of campground attractiveness. By redefining the variables slightly and by retesting the hypotheses in a different situation, one achieves a better idea of their external validity. Unfortunately, the design of this study is better suited to searching out new hypotheses than it is to testing old ones. Nevertheless, it was possible to demonstrate the existence of relationships and to draw conclusions about the generalizability of the hypotheses to the Michigan State Park system.

The results of research such as this used with tools such as those developed by Dr. Van Doren can provide resource managers with information useful in making decisions about the allocation of scarce resources. Recreation resource managers faced with shortages of funds and growing demand for recreation facilities cannot afford to build unattractive campgrounds. Even more fundamentally, a society, if it does not desire to be wasteful, will try to achieve the greatest satisfaction from the resources it uses. Understanding the determinants of campground attractiveness will help recreation resource planners approximate that end.

Definition of Terms

Campground Attractiveness. To attract means to draw or to make something approach or adhere. An attractive campground would cause campers to visit and to stay. Since the camper must provide the force to move himself to the campground, campground attractiveness must be assumed to be an estimate by the camper of the likelihood of experiencing utility by making the visit.

Campground. Campgrounds are areas where temporary shelters are set up in conjunction with recreational pursuits. Only those areas designated as State Park campgrounds in Michigan's lower peninsula are considered in this study.

Campground Features. Characteristics of campgrounds are such things as location, relief, layout, and size. Campground features compared in this thesis are the physical, relatively permanent characteristics of the campground and its immediate vicinity which can be observed by inspection.

Recreation. Recreation is behavior engaged in for immediate gratification. It need not enter into the production function of any other good, yielding utility to the person recreating though it may. Recreation is engaged in freely without coercion from subsistence needs or social demands.

Scope

The campgrounds studied were those campgrounds in Michigan State Parks and Recreation Areas of the lower peninsula for which data on length-of-stay were reported in 1968. Essentially, these were the main campgrounds in each park or recreation area. Outpost and overflow campgrounds were excluded. Data from which campground attractiveness scores were calculated were reported by the Michigan Department of Natural Resources in the "Summary of Camping Information."[1] Data on the independent variables were gathered from the six most-attractive and six least-attractive campgrounds during the summer of 1969. The population of campers consisted of all camping parties registered at State Park and Recreation Area campgrounds in Michigan's lower peninsula as reported in the "Summary of Camping Information." Data about the independent variables were collected during part of the summer of 1969.

Specific Hypotheses

It was hypothesized that more-attractive campgrounds, 1) offer a greater number of activity opportunities than do less-attractive campgrounds, 2) offer a greater number of services than do

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[1] Michigan Department of Natural Resources, "Summary of Camping Information," Lansing, 1964-1967. (Mimeographed.)

less-attractive campgrounds, and 3) are adjacent to recreational water with more activity potential than the water adjacent to less-attractive campgrounds.

A campground's attractiveness was measured by the average length-of-stay by camping parties registered there. Activity opportunities are such things as swings, trails, museums, and waterskiing. Services are such things as laundries, gas stations, and restaurants. The activity potential of recreational water was judged by the type of shore; whether the water is a stream, inland lake, or Great Lake; and similar characteristics on the basis of the degree to which they restrict the number of recreational uses the water can be put to.

Methods

An approach was used that is analogous to panel studies in market research. The panel in this case consisted of all camping parties registered at Michigan State Park and Recreation Area campgrounds in the lower peninsula during 1968. In the course of seeking recreation, the campers chose from among the fifty-two campgrounds operated by the parks division in the study area and registered their approval or disapproval of the facility by the length of time they stayed.

It was assumed on the basis of theory and empirical evidence that the longer a party stayed, the more satisfied it was. Campgrounds registering the longest average length-of-stay were considered to be most-attractive, while those registering the shortest average length-of stay were considered least-attractive.

The six most-attractive campgrounds were compared with the six least-attractive campgrounds. Those things that differed more between the two sets than they did among the campgrounds in either set were considered to be important in determining campground quality and were designated attractive features in the hypotheses proposed in Chapter V. The hypotheses described in Chapter III were tested in a similar manner, the difference being that relationships were proposed in advance of data collection and data specifically sought on the variables involved. The latter method is, of course, the usual approach.

Limitations

The campgrounds in either of the extreme sets were not of a single type. On a great many variables, there must have been as much variance within the contrasted sets as there was between them. Features thus distributed may have been unimportant in determining attractiveness. This design permits no conclusions about them. One should not assume, however, that because two campgrounds appear in the most-attractive or the least-attractive set they are similar in more than a few regards. In fact, members of both sets are not at all of a single type.

The number of features and combinations of features available among the State Park campgrounds is limited and the range of values is fairly short. Such is to be expected, for over time in response to indications of user satisfaction, managers have made what changes in the physical plants they could to maximize user satisfaction. The physical plant of a campground, however, is largely fixed by its location on the resource base. If the campground is not adjacent to a lake, for example, the managers can do little about that. Therefore, because the resource base is not homogeneous, some variation will exist.

The ability of this investigation to identify attractive features depended first upon the existence of the feature within the set of campgrounds studied, and, secondly, upon some variation in the quality of the feature among campgrounds in the set. Furthermore, the effects of some features may have counteracted the effects of others, thus making identification by this method difficult. The interviews with users described in Chapter V were an attempt to circumvent this problem.

In the strictest sense, the results reported here only apply to the twelve campgrounds studied. At best, they may be generalized to the campgrounds used by the population of campers studied. The use of average length-of-stay as a measure of campground attractiveness can be criticized on the basis that the campers made their decisions to stay or move on with imperfect knowledge of the options open to them. On the other hand, average length-of-stay is better than the commonly used total attendance figures as a measure of attractiveness

because it has been shown to be related to satisfaction and requires fewer assumptions about the extent of prior knowledge of options.

The dual purposes of this study were, first, to seek new hypotheses about parameters of campground attractiveness, and, secondly, to "test" several hypotheses about campground attractiveness suggested in the literature. The research design is incompatible with hypothesis testing in a statistical sense because it does not meet the requirements of random sampling. The sample was intentionally biased to include only the most-attractive campgrounds and the least-attractive campgrounds in order to maximize variation on relevant variables so that new explanations would be as obvious as possible. Nevertheless, the hypotheses are subjected to tests which, it is hoped, will reveal important insights for helping guide future research efforts.

The null hypothesis, that the most-attractive set is the same as the least-attractive set for a given variable, was rejected if the observed results would occur ten times out of one hundred by chance or less often were the two sets in fact the same. The Fisher exact probability test for 2x2 contingency tables was used to test the hypotheses.

To seek new hypotheses is an honorable pursuit for a scientist. The advancement of a field of scientific study is made through the proposal and testing of hypotheses. Scientists generate hypotheses from experience and the best experience for those purposes is not that haphazardly gained, but that systematically sought. Systematic design can either minimize or maximize variation on the dependent variables, and thereby control the variation of associated values. The author's systematic search for further explanations of campground attractiveness, reported in Chapter V, in effect resulted in a number of suggestions for further research. The hypotheses presented are not claimed <u>to be</u> truth, rather, they <u>may be</u> truth. Maybe campgrounds on rolling terrain are more-attractive than those on level terrain. Whether that statement is to be accepted as true will depend on the results of a number of further studies designed to test the hypothesis using data independent of that which spawned the idea.

Structure and Content of Chapters

As a consequence of the dual aims of the work reported here, the thesis is uniquely organized. The literature reviewed in connection with the study is discussed in Chapter II. The hypotheses generated by the literature review, the methods of measurement, and those methods associated with collecting data about the variables and testing of the hypotheses are presented in Chapter III. These assembled data and the results of the analysis are in Chapter IV. The methods and results of the search for further explanations of campground attractiveness are reported in Chapter V.

There are two parts to Chapter V. The first concerns a park inventory and inspection and describes the results. The second part describes an interview with campers, the results of which add to the analysis in Chapter IV and suggest support for another hypothesis about campground crowding from the literature not discussed in Chapter III. In addition, data from the interviews suggest further explanation of campground attractiveness. Both sections are preceded by discussions of methods employed in the investigation. A summary of the research and a discussion of the findings make up Chapter VI. Disclaimers about truth and generalizability will be repeated as good faith with users of the study results demands. Such insistence on the weaknesses may discourage some who would use the work. Hopefully, it will make cautious those inclined to put too much faith in the results of individual scientific studies.

CHAPTER II

REVIEW OF LITERATURE

Introduction

The literature reviewed contained little that applied directly to attractive features of campgrounds. It was necessary to infer the relative attractiveness of different campground features from what has been reported about camper social and economic characteristics, their activity preferences and behavior patterns. Consequently, the reviews that follow present information peripheral to the subject of the investigation.

There are two categories of literature described in this review, that concerned primarily with the social and economic characteristics of campers and that concerned with campers' likes and dislikes. The various articles describing research into camper characteristics are reviewed first. Each article is reviewed individually and both sections are followed by summaries that compare and contrast the reported findings.

Research About Camper Characteristics

Abbott L. Ferris, assisted by Betty C. Churchill, Charles H. Proctor and Lois E. H. Zazove, National Recreation Survey.[1]

Ferris, et al., assumed participation in a given outdoor activity to be predictable from selected socio-economic characteristics and

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[1]Abbott L. Ferriss, et al.,National Recreation Survey, ORRRC Study Report 19, 1962 (Washington, D. C.: Government Printing Office, 1962.)

investigated several hypothesized relationships. Data were collected and tabulated by the Census Bureau. The confidence interval was sixty-eight per cent.

Backwoods recreation which included camping was discussed in Chapter Five of ORRRC Study Report 19. Westerners were found to camp at nearly three times the rate of people from other regions. Males participated more often than females. Camping decreased with age, with participation dropping off sharply after age sixty-five. Camping increased with income except in the highest ($15,000+) category. In the South and Northeast, participation peaked in the $8,000 to $9,999 class. Participation increased with education except that it began to decline among those who had completed high school. In the North Central States which include Michigan, the peak group was the college graduate.

Non-whites camped infrequently. Rural residents camped more often than urbanites except in the North Central States. Professional and technical workers, craftsmen, and kindred workers participated more often than did other groups. Participation in camping was associated with preference for water activities and hunting. It was negatively associated with the milder forms of outdoor activity such as attending outdoor sporting events or sightseeing.

Eva Mueller and Gerald Gurin assisted by Margaret Wood, Participation in Outdoor Recreation: Factors Affecting Demand Among American Adults.[1]

Two purposes guided the research reported by Mueller, et al. The first was to gather new statistical information about outdoor recreation that would provide a better picture than did the current practices. The second was to analyze the data to identify important factors predicting recreation demand. Data were collected through person to person interviews with a representative cross section of

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[1]Eva Mueller, et al., Participation in Outdoor Recreation: Factors Affecting Demand Among American Adults, ORRRC Study Report 20, 1962 (Washington, D. C.: Government Printing Office, 1962).

the United States' adults. A cluster sample was chosen at random. For data from the whole sample, sampling error ranged from about 2.6 per cent where estimates of participation were around 50 per cent to about 1.1 per cent where estimates were near 5 or 95 per cent with a .95 probability.

Campers are described in Chapter Six of ORRRC Study Report 20. Most camping was done by people in the middle age group, 25 to 54 years of age. Camping increased with income to something over $7,500, then declined. Campers were most frequently single adults under 45 and married adults under 45 with children under 18. Almost one half of the westerners sampled, camped; frequencies were much less in other sections of the nation. Activities associated with camping included: outdoor swimming (43 per cent), boating or canoeing (31 per cent), fishing (46 per cent), automobile riding for sightseeing (62 per cent), picnicking (59 per cent), hunting (23 per cent), and hiking (22 per cent).

Campers were much more likely than non-campers to "like to rough it." Only 2 per cent of those who indicated they prefered comfort camped often, while 30 per cent of those who indicated they "liked to rough it sometimes" camped often. People indicating a preference for "roughing it" most often said they liked camping because it was a change from the usual way of life or because they liked being out-of-doors.

Michael E. McGuire and Ronald W. Hodgson, State Park Camper Behavorial Patterns.[1]

The testing of several hypotheses using data collected by the Parks Division, Michigan Department of Natural Resources during 1967 is reported in State Park Camper Behavorial Patterns. Location quotients were calculated for each county and the results mapped. It was apparent that the upper peninsula produced fewer campers than one might expect on the basis of population. Southwest Michigan and the

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[1]Michael E. McGuire and Ronald W. Hodgson, "State Park Camper Behavorial Patterns" (unpublished Recreation Research and Planning Unit Technical Report 4, Michigan State University, 1968).

southern tier of counties, except Monroe County, constitute a distinct "camperless" zone. Only the central part of southern Michigan produces more campers than would be expected on the basis of population. A comparison of location quotients and selected county statistics produced the following.

County income explained about 9 per cent of the variation in location quotient. As income increased, so did the location quotient, indicating the ratio of campers to non-campers increased. There was a negative relationship between water surface area in the county and the county's location quotient. Water surface area explained 7.8 per cent of the variations in the location quotient.

It was hypothesized that the length-of-stay varied directly with campground distance from a major highway. Straight line distance was used. It was found that average length-of-stay varied inversely with the distance from a limited access road and that the independent variable explained about 18 per cent of the variation in average length-of-stay.

Michigan campers stayed significantly longer than did non-Michigan campers. Users of more-mobile car and pickup campers were found to stay shorter periods than less-mobile tent campers. Crowding did not seem important in reducing the length-of-stay.

David A. King, Socio-economic Variables Related to Campsite Use.[1]

King sought to identify social and economic variables of family camping in National Forests and to compare identified camper characteristics with those of the general population in the areas that generated the campers. Five hundred sixty-four groups were interviewed at campgrounds on the Huron-Manistee National Forests in Michigan between April 28 and September 14, 1962. All campgrounds in the forests were

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[1] David A. King, Characteristics of Family Campers Using the Huron-Manistee National Forests, Forest Service Research Paper LS-19, 1965 (St. Paul, Minn.: U.S.D.A., 1965); and

Idem, "Socio-economic Variables Related to Campsite Use," Forest Science, XIV:1 (March, 1968), 46-54.

sampled, each on twenty-four days spread over the study period. Occupied campsites within the campgrounds were sampled at random. The data were corrected for the bias introduced by varying lengths-of-stay. Reported relationships were significant at $p \leq .05$. Census Bureau data for 1960 from the regions from which the greater part of the campers came were used as general population data.

Camping families were generally overrepresented in the middle income classes when compared to the general population of their area of origin. White collar occupations were underrepresented in the sample. Among the white collar group, the professional class was most overrepresented. Among the blue collar group, craftsmen and foremen were overrepresented. Forty-one per cent of the sample were white collar; fifty-two per cent were blue collar.

Family groups, especially families with children, were the primary users of forest campsites. Camping families had more children than did the general population. Forty-nine per cent of the children were between 6 and 12 years old; twenty-five and twenty-six per cent were 1 to 5, and 13 to 18 years old respectively. The mean family size was about 4 persons. Well over seventy per cent of the families were of between 2 and 5 members.

Heads of camping households were overrepresented in the 35 to 44 year old bracket. On the whole, campers were more educated than the general population. About eighty per cent of the campers surveyed came from areas designated as urban in the 1960 census. About one half had had more than ten years camping experience. Tents were the most frequent shelter, but forty-one per cent used house or tent trailers and two per cent used pick-up campers, station wagons, or some other shelter. In a concluding note, King observes that campgrounds with beaches tend to be overused, suggesting a preference among campers for riparian sites.

Elwood L. Shafer, Socio-economic Characteristics of Adirondack Campers.[1]

Shafer sought to determine whether New York State campers at two Adirondack areas differed in either income class or resident zone. Data collected incidently to camper permits were analyzed. The Tax Bureau provided aggregated information on income from their files. Sampling was such that results were within plus or minus 1 per cent with a 95 per cent confidence interval. A summary of Shafer's findings regarding the income of Adirondack campers is shown in Table 1. Shafer finds campers to be predominately from middle income categories.

Table 1. A Summary of Shafer's Findings

Income Category	Per Cent of Sample
0 - $3999	7
$ 4000 - 6999	37
$ 7000 - 9999	39
$10000 +	17

William R. Burch, Wilderness - The Life Cycle and Forest Recreational Choice.[2]

Previous research projects had produced as a by-product a census of users of the Three Sisters' Wilderness Area and adjacent easy access campgrounds. This census constitutes the population of the study. Mail questionnaires with a cover letter succeeded by two follow-ups were mailed to 997 sampled users. Eighty-nine and seven tenths per cent responded and a telephone check of a sample of non-respondents indicated they were essentially the same as those who replied. Relationships reported are significant at least at the 5 per cent level. The results are summarized as follows.

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[1] Elwood L. Shafer, Jr., "Socio-economic Characteristics of Adirondack Campers," Journal of Forestry, 63:9 (September, 1965),690-94.

[2] William R. Burch, Jr., "Wilderness - The Life Cycle and Forest Recreational Choice," Journal of Forestry, 64:9 (September, 1966), 606-10; and

William R. Burch, Jr., and Wiley D. Wenger, Jr., The Social Characteristics of Participants in Three Styles of Family Camping, Forest Service Research Paper PNW-48, 1967 (Portland Oregon: U.S.D.A., 1967).

Persons over 65 years old who camp were most likely to be easy access only campers. Persons under 30 years of age most often did some easy access and some remote camping. Those who were remote area campers only were most likely to be young or between 45 and 64 years old.

Rural residents were unlikely to go camping and when they did, they were overrepresented among wilderness campers. City residents were more likely than rural residents to be forest campers, but suburban residents were underrepresented among campers. Remote campers and combination campers had, for the most part, had early experience as campers. Easy access campers generally had had no youthful experience with camping and related activities.

Camping families had significantly higher incomes than the general population. Almost 27 per cent of heads of households among the campers had done post-graduate work. There were only about 5 per cent of the males in the general population who had had as much schooling. Campers came from all occupations, but were more likely to be professional, technical, clerical, and sales workers and less likely to be managers, proprietors, factory operation laborers, or farmers.

Campers had more children than were expected on the basis of occurrence in the general population. The majority had two or three children. Whether one had children or did not did not seem to affect the style of camping done, but the ages of the children did. Remote and combination camper's children were very young. Easy access camper's children were overrepresented in the ten to fourteen year class. Remote campers were overrepresented among the childless and those with children over twenty-one years old. Easy access campers were most likely in the middle or post-retirement stages in the family life cycle. Remote campers appeared usually to be families with very young children or with children about to leave home. The combination camper was usually in the early stages of family life. Wilderness, easy access, and combination campers may not be different kinds of people. Rather, they may be the same people at different stages in the life cycle.

Summary

Camping increases with income except in the highest category where it falls off. It increases with education up to the college graduate in the North Central States, then falls off. Camping increases with age up to about 65 years old. The majority of campers are blue collar, but white collar occupations are overrepresented and blue collar are underrepresented. Professionals are especially over-represented.

Camping is a family affair. Easy access campers, typical of those using state parks, have children between about 5 and 14 years old. These families most often have 2 children, seldom more than 6. Campers are not often from non-white racial groups. A study of the life cycle and camping suggests easy access campers are new campers or those in the early stages of raising a family or are retired. These same campers may be remote area users and combination campers at the other stages in the life cycle.

Research About Camper Likes and Dislikes

Barnal L. Green and H. A. Wadsworth, Campers: What Affects Participation and What Do They Want?

The population studied is the Indiana membership of camping associations. Participation is defined as the number of nights camped. Swimming was found to be the most preferred activity associated with camping, followed by fishing and boating. Playground equipment for children and hiking were the remaining two of the five most popular activities. Boating was the least often chosen among the five and was chosen 103 times. The next highest item was chosen only 30 times. Being out-of-doors (23 per cent), opportunity to meet people (20 per cent), physical exercise (17 per cent), relaxation (11 per cent), and change of pace (9 per cent), were the five most frequently reported, most desirable aspects of camping. Restroom facilities (18 per cent), and a lack of facilities (15 per cent) were the most frequently

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[1]Barnal L. Green and H. A. Wadsworth, Campers: What Affects Participation and What Do They Want?, Agricultural Experiment Station Bulletin No. 823, 1966 (Lafayette, Ind.: Purdue University, 1966).

mentioned undesirable aspects of camping. Respondents were asked who made the group's decision about where to camp. Ninety per cent indicated the decision was a group decision.

Thomas L. Dahle, Michigan State Park Users Survey, 1956.[1]

Personal interviews with 894 users were made at thirty-one state parks and additional data were collected at permanent stations where users filled out a questionnaire if they wished to. Where interviews were taken, an attempt was made to stratify the sample approximately as use was distributed that day between campers and day users and among campers according to equipment type. No statistical estimates of accuracy are possible.

Data reported here were contained for the most part in the section "Description of Park Users," pages six, seven, and eight. No breakdown between campers and day users was made. The data are nearly fifteen years old.

The most common group size was 4.5 persons with very few single persons or groups of eight or more members. The majority of those interviewed were between 21 and 50 years old. The 31 to 40 year old group made up about one half of these. Forty-one per cent of the users had homes in the three-county Detroit area. Other southeastern counties generated 6.4 per cent and other counties below the Bay City, Muskegon line generated 29.5 per cent of those sampled. The upper lower peninsula and upper peninsula generated only 6 per cent. Sixteen and six tenths per cent were from out-of-state.

When asked why a particular park was chosen, the most frequent reply was that it was closest to home. Other responses included the possibility of camping near water, less crowded, cleanliness of park, and greater safety for unsupervised children at play. Camping, swimming, picnicking, relaxing, and fishing were the most frequently reported activities. Table 5 in Dahle's report is printed here as Table 2.

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[1]Thomas L. Dahle, Michigan State Park Users Survey, 1956, Bureau of Business Research Research Report Number 19, 1956 (East Lansing, Michigan: Michigan State University, 1956).

Table 2. Most Frequent Suggestions for Park Improvement

Suggestions	Personal Survey	Voluntary Response
More restrooms	55	142
More electric outlets	43	39
Better laundry facilities	35	57
Cleaner restrooms	40	34
Too crowded (expand park)	33	4
Boat launching facilities	23	30
Fire places or stoves	34	38
Hot water service	23	43
More water service	20	-
Expand camp area	23	58
Mosquito control	17	8
More tables	16	61
Better parking facilities	30	63
Running water	16	42
More recreational facilities	13	-
Extend beach	24	16
Showers	16	68
Diving platform	11	20
Clean it up	13	14
Miscellaneous	17	-

Leslie M. Reid, Raleigh Barlowe, and James H. Hall, The Quality of Outdoor Recreation as Evidenced by User Satisfaction.[1]

Study Report 5 to the Outdoor Recreation Resources Review Commission defines quality of outdoor recreation as a set of procedures and management techniques consistent with a sustained yield of recreation meeting specified human needs and desires and evaluates expressions of satisfaction by users as a measure of area quality. In the process, a wide range of recreation areas and their users are studied. Among the results is a compilation of user satisfactions and dissatisfactions. Those results, pertinent to the subject of this thesis, are

[1]Leslie M. Reid, Raleigh Barlowe, and James H. Hall, The Quality of Outdoor Recreation as Evidenced by User Satisfaction, ORRRC Study Report 5, 1962 (Washington, D. C.: Government Printing Office, 1962).

summarized here. Data were gathered from questionnaires distributed at twenty-four different recreation areas ranging from national parks to state parks. No estimate of accuracy is reported.

Relaxing is the first activity reported among those associated with camping. Over half of the groups reported this activity. Hardly anyone reported dissatisfaction with relaxing. Picnicking was reported by slightly more than half of those surveyed. There were no reported dissatisfactions with picnicking. Swimming was done by 43.2 per cent of those surveyed. Eight and six tenths per cent of these reported dissatisfaction, usually because of a lack of facilities such as a sand beach, rafts, or diving boards, dirty conditions, crowding, and bad weather.

Sightseeing and walking to scenic points caused little negative comment. What there was referred to bad weather and lack of time to participate. The only complaint of photographers was bad weather. In most cases, complaints about concessionaire services were that they were too expensive. These services included equipment rental, horseback riding, guided tours, etc. Fishermen complained of lack of success. Campers complained of too much crowding, inadequate facilities, and bad weather. Trail hikers objected to bad weather, a lack of time, and very infrequently, to a fear of animals.

The following objections were made in reference to the conditions of facilities associated with camping. Water supplies were sometimes inadequate in number or poorly distributed. Campgrounds were too crowded and had dirty or inadequate facilities. Toilets were "dirty" which most often meant they smelled bad rather than that they lacked washing and cleaning.

The activities most enjoyed by the user group typical of state park users, the family with children, were, in order of most frequent choice: sightseeing with stops, swimming, camping, picnicking, trail hiking, sightseeing from a car, relaxing, walking to scenic points, snow skiing, and water skiing. Games and team sports were not reported among the five most popular at any site studied, but complaints about the non-availability of such activities were sometimes made at state parks.

Wilbur F. LaPage, Successful Private Campgrounds: A Study of Factors that Influence the Length and Frequency of Camper Visits; and The Role of Customer Satisfaction in Managing Commercial Campgrounds.[1]

LaPage reported a number of generalizations from a continuing series of studies in New Hampshire. Those which are pertinent to the subject of this thesis are listed below. These two papers are particularly important as they suggested the operation for campground attractiveness by reporting the relationship between camper satisfaction and longer and more frequent visits.

1) The length-of-stay and frequency of visit vary directly with the number of sites in a campground, the age of the campground, and the dollar investment made in it.

2) The presence of swimming or boating at or near the campground is associated with longer and more frequent visits. Water was found to be almost always necessary to high quality camping experiences. Still waters of lakes and ponds were preferred to streams. Length of visits, frequency of visits, and number who intended to return decreased steadily from lake-front campgrounds, through river and stream-front campgrounds, to campgrounds with no recreational water. The importance of riparian location is lessened if recreational water is accessible within easy drive of the campground.

3) Campgrounds in regions offering a number of activities are more popular than campgrounds in regions where the number of activities are limited. An increase in the number of activities engaged in at the campground is associated with an increase in reported camper satisfaction.

4) Length-of-stay drops as crowding increases.

5) Campers using highly mobile equipment tend to stay for shorter periods than campers using tents.

6) Trip plans are fairly flexible, permitting considerable change in the length-of-stay at any given place.

7) It is apparently impossible to identify a single main purpose for camping or campsite choice.

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[1]Wilbur F. LaPage, Successful Private Campgrounds: A Study of Factors that Influence the Length and Frequency of Camper Visits, Forest Service Research Paper NE-58, 1967 (Upper Darby, Pa.: U.S.D.A., 1967); and

Idem, The Role of Customer Satisfaction in Managing Commercial Campgrounds, Forest Service Research Paper NE-105, 1968 (Upper Darby, Pa.: U.S.D.A., 1968).

8) Superior facilities and better maintenance are most often given by campers as reasons for preferring public to private or private to public campgrounds.

LaPage combines the variables related to greater frequency of visit and longer stays into three factors. The first is variety, which is an interest in many and varied recreational activities, and in the choice of situations that they represent. The second is service which is defined as a desire for individual services, personal interest, convenience, and the ego satisfaction that these things represent. The third variable is that of less rational reasons such as habit and prejudice.

William R. Burch, Jr., Two Concepts for Guiding Recreation Management Decisions.[1]

Burch suggests that recreation is a group rather than a solitary behavior and that the decision about what to do and where to do it is a collective decision. Data from an exploratory study are used to illustrate the points. Twelve campgrounds in three Oregon national forests were observed and a non-random but systematic sample of campers were interviewed. No estimates of accuracy are possible.

Camping groups were most often complex aggregates of a wide range of ages and both sexes. Consequently, it was unlikely that any main purpose exists for camping or even for making a campground choice. More likely, a suite of activity preferences might be identified.

Burch discusses the user's "resource system" and contrasts it to the land manager's "resource system." Results of the conflict are pointed out and solutions suggested. To illustrate the user's resource system, he presents the responses to the question, "Is there anything about this area that members of your group would like to see changed? (Please describe.)" About one half the respondents reported variables of the campground setting, especially "scenic atmosphere" in response

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[1]William R. Burch, Jr., "Two Concepts for Guiding Recreation Management Decisions," Journal of Forestry, 62:10 (October, 1964), 707-12.

to this question. One third volunteered comments about variables dealing with comfort. Toilets, firewood, and water supply dominated this category.

J. Alan Wagar, Relationships Between Visitor Characteristics and Recreation Activities on Two National Forest Areas.[1]

Wagar sought to identify the segment of the population which users of outdoor recreation areas represent, their preferred activities and something of their attitudes. Data were collected using a questionnaire at two National Forest Recreation Areas. A non-random, systematic sample of area users over fifteen years of age was selected. Five hundred twenty-seven questionnaires were distributed at the Stuart Recreation Area in West Virginia; 56.7 per cent were returned. Four hundred sixteen questionnaires were distributed at the Twin Lakes Recreation Area in northwestern Pennsylvania; 67.1 per cent were returned. Strictly speaking, the failure to use random sampling makes statistical statements of accuracy invalid. However, if one assumes the sample to be random, the reported relationships would have been observed by chance only five times in one hundred.

Some form of active recreation was participated in by 69.2 per cent of the surveyed users at the Stuart area and by 85.7 per cent at the Twin Lakes area. Activities most frequently engaged in were swimming, sitting and watching, picnicking, and sightseeing. Swimming and sunning, picnicking, and a preference for some specific trait of the area were listed as the most important reasons for visiting. Unfortunately, no detail of the area traits preferred was reported.

The sample of users was about one half male and one half female. Over half were married. About 75 per cent were between twenty and sixty-four years of age. Campers were not reported separately from day users, making this information less useful than it might have been. At Twin Lakes, a higher percentage of married users camped than did not. Campers came from further away than those who did not camp at both areas and campers were most often from professional occupations.

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[1] J. Alan Wagar, Relationships Between Visitor Characteristics and Recreation Activities on Two National Forest Areas, Forest Service Research Paper NE-7, 1963 (Upper Darby, Pa.: U.S.D.A., 1963).

Gordon L. Bultena and Lowell L. Klessig, Satisfaction in Camping: A Conceptualization and Guide to Social Research.[1]

Bultena and Klessig propose the hypothesis, ". . . .satisfaction with camping is a function of congruency between aspirations and the perceived reality of experience." Unfortunately, such a hypothesis promises little and delivers less in the way of identifying campground characteristics associated with satisfaction. However, their review of previous research yielded five continua of motives to camp. These serve to illustrate the diversity in the camping population and are listed below.

1) A primitive and simple style of camping as opposed to a style of comfort and convenience.

2) Camping motivated by a desire to use a specific resource or by a desire for a change of setting or routine.

3) An activist versus a reflective orientation.

4) A search for "personal experience" or for "social experience."

5) Camping as an end in itself or camping for the social status values associated with it.

Summary

Conspicuous among the catalogue of campers' likes is the absence of organized activity. All the frequently mentioned activities, swimming, hiking, picnicking, fishing, and relaxing are unorganized activities, the pace and duration of which can be varied in a moment to suit a mood. Apparently campers seek a range of optional uses for their leisure and a minimum of obligation. If this is so, attractive campgrounds will offer many activity opportunities appealing to the range of needs represented in the typical family camping group, and they will offer services that free campers from necessary housekeeping and child-rearing tasks. Among the most frequently mentioned wants is proximity to water and swimming. Apparently, non-riparian campgrounds

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[1]Gordon L. Bultena and Lowell L. Klessig, "Satisfaction in Camping: A Conceptualization and Guide to Social Research," Journal of Leisure Research, 1:4 (Autumn, 1969), 348-54.

are at a serious disadvantage in the competition for users. One explanation of the camper's affinity for water might be water's ability to provide activity for both sexes and all ages. One would expect water to be attractive in proportion to its ability to support a variety of activities.

CHAPTER III

HYPOTHESES AND METHODS

Hypotheses

Introduction

Why do campers prefer one campground to another? It is assumed, because some parks cannot meet the demand for space year after year, a set of physical, relatively permanent features accounts for the variability observed. The numbers of camping parties turned away from selected Michigan State Park campgrounds for lack of space from 1965 through 1969 are shown in Table 3. The excess of demand over supply varies from one campground to the next, suggesting that popularity also varies. The ranking of ten randomly chosen campgrounds listed in Table 4 varies through the years from 1965 through 1969. With one or two exceptions, the campgrounds maintain fairly constant relative positions. Such consistency from year to year suggests some relatively permanent feature or set of features is responsible for the observed differences in popularity.

Table 3. Numbers of Camping Parties Turned Away from Selected Michigan State Park Campgrounds for Lack of Space, 1965-69[a]

Campground	Turn Away				
	1965	1966	1967	1968	1969
Sleeper	237	531	251	264	985
Holland	3301	3223	1405	1929	2304
Holly	177	124	95	174	410
Wilderness	5097	2737	1148	1087	1644
White Cloud	23	-	35	19	241

[a]Data provided by Parks Divison, Michigan Department of Natural Resources. The accuracy is somewhat in question due to problems in data collection, but it suffices for illustrative purposes.

Table 4. Ten Michigan State Park Campgrounds Chosen at Random and Ranked by Number of Camping Parties Turned Away, 1965-1969

Campground	Rank				
	1965	1966	1967	1968	1969
Wilderness	1	2	4	4	4
Holland	2	1	2	2	2
Otsego Lake	3	3	1	1	1
Muskegon	4	4	8.5	5	7
Pinckney	5	5	3	6	6
Mitchell	6	7	5	3	3
Sleeper	7	6	6	7	5
Holly	8	8	8.5	9	8
Benzie	9	9	7	8	10
White Cloud	10	10	10	10	9

A review of the literature suggests three testable hypotheses explaining variations in popularity among campgrounds. These hypotheses are presented in detail below and are tested by methods described later in this chapter. It was not the intention of this work only to test three hypotheses. Rather, it was hoped a systematic exposure to attractive and relatively less-attractive campgrounds would generate new hypotheses or provide some novel insight into the question of why some campgrounds are more attractive than others. The hypotheses, however, serve to structure the investigation and in that way are useful beyond any direct significance.

Hypothesis I

More-attractive campgrounds offer a greater number of activity opportunities than do less-attractive campgrounds.

Attractiveness and its measurement are discussed more completely later. For now, it may be thought of as a campground's power to attract and hold recreationists deriving from the recreationist's expectation and realization of satisfaction through use of the campground. Camper groups are primarily families with children of five to fourteen years of age.[1] Such a diverse group can be expected to have a

[1] Burch and Wengar, The Social Characteristics of Participants; and Dahle, Michigan State Park Users Survey, p. 7.

wide range of activities they find most satisfying. For the father, the favorite activity may be fishing; for the mother, it may be collecting or painting; for the children, it may be playing at the beach or playing with other children. If only one of these activities is available, the majority of the group will not be well satisfied, and if the other members of the group are compassionate, the group as a whole will be dissatisfied with the camping experience.

On the other hand, if all members of the group find entertainment at the same campground, the group will be satisfied and find the campground attractive. Ideally, one would hypothesize a range of activities on a male-female, young-old pair of axes to be related to campground attractiveness. Unfortunately, no such scale of outdoor activity preference was available. Therefore, it is assumed that the greater the number of activities available, the higher the probability that some will be appropriate and satisfying to each member of the camping group.

Measuring only numbers takes no account of non-substitutability among activities. In effect, it assumes all activities within the sets appropriate to a given camper type are equally desirable. In fact, that is probably not so. A campground with a large number of relatively undesirable activities may be less attractive than a campground with a small number of generally popular activities appropriate to a wide range of campers. Nevertheless, it is hypothesized that more-attractive campgrounds will provide a greater number of activity opportunities than will less-attractive campgrounds.

Hypothesis II

More-attractive campgrounds offer a greater number of services than do less-attractive campgrounds.

LaPage found campers to have"....a desire for individual services, personal interest, convenience, and ego satisfaction that these things represent."[1] A desire for services can be explained without an appeal to Freud, however. Recreation by definition is activity not required

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[1]Wilbur F. LaPage, The Role of Customer Satisfaction in Managing Commercial Campgrounds, Forest Service Research Paper NE-105, 1968 (Upper Darby, Pa.: U.S.D.A., 1968).

of the individual by subsistence or social demands. A recreational experience is enjoyable to the extent that it offers choice and freedom of activity. Services which free more time for optional behavior can be expected to be popular.

Spartanism[1] is undeniably a part of the motivation to camp, but, like the idea of wilderness, it is relative. To some, camping in a self-contained house trailer may be roughing it. Bultena and Taves found campers, even among wilderness users, want improvements such as showers, hot water, and flush toilets.[2]

Hypothesis III

Campground attractiveness varies directly with the activity potential of adjacent recreational water.

Water is apparently so important that a campground without it is at a serious disadvantage in the competition for users.[3] Recreational water is defined as any body of surface water, still or flowing, natural or man-made, from which individuals directly derive enjoyment beyond that associated with the fulfillment of such needs as drinking, waste disposal, irrigation, etc. Recreational water is adjacent to a campground if it is within one-fourth mile and is accessible by vehicle or on foot.

The importance of recreational water probably results from its ability to support a variety of activities interesting to both sexes and to a wide range of ages. Children can play in the sand and shallow water, often without involving the parents if the beach is protected by a lifeguard. Teens will find boy and girl watching exciting, and may water ski, sunbathe, swim, boat, or fish. Adults will enjoy a similar set of activities.

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[1] John C. Hendee, et al., Wilderness Users in the Pacific Northwest, Their Characteristics, Values, and Management Preferences, Forest Service Research Paper PNW-61, 1968 (Portland Oregon: U.S.D.A., 1968).

[2] Gordon L. Bultena and Marvin J. Taves, "Changing Wilderness Images and Forestry Policy," Journal of Forestry, 59:3 (March, 1961), 169.

[3] LaPage, Successful Private Campgrounds: A Study of Factors Influencing the Length and Frequency of Camper Visits, p. 9; and Dahle, Michigan State Park Users Survey, p. 8.

Water appeals to both passive and active interests. It provides opportunity for contemplative walks and for water-skiing. The beach is a vast sandbox to children. It provides a setting for romance and it is an aesthetic place with rocks, driftwood, and other curiosities to inspect and collect. The quality of water for recreation increases with the number of and variety of activity options it presents. It would be difficult to count the number of ways people might use water for recreation, but certain characteristics of the water and the land adjoining it influence the number and kinds of activities that will be pursued there.

Research Design

Introduction

The general research tactic was to observe the preferences of a population of state park campers exposed to 52 different combinations of campground parameters. The study is a field investigation and the 52 combinations are the combinations found in State Park campgrounds in the lower peninsula. User preference was indicated by length-of-stay. The appropriateness of length-of-stay as a measure of satisfaction is discussed later.

Once the ranking of campgrounds on the basis of user satisfaction was accomplished, only the most-attractive and least-attractive campgrounds were inspected. The primary objective of this study is to attempt to uncover new possible explanations of campground attractiveness. The testing of already proposed hypotheses is secondary. Therefore, a design maximizing variation in the dependent variable and consequently in the independent variables was chosen instead of a random sampling design.

Tests for Relationships

The research design, then, is to identify a set of most-attractive campgrounds and a set of least-attractive campgrounds, to compare the two sets, and to test the hypotheses by comparing the relative frequencies with which variables appear in the two sets. Some sort of decision rule must be specified in order to determine when the data support or do not support the hypotheses.

Tests for relationships are made using the Fisher exact probability test. The Fisher exact test is particularly useful in analyzing discrete nominal or ordinal data when two independent samples are of small size.

Table 5. 2x2 Contingency Table (Crossbreak)

A	B	A+B
C	D	C+D
A+C	B+D	N

Data are arranged in a 2x2 contingency table. The exact probability of observing the resultant matrix is found by taking the ratio of the product of the factorials of the four marginal totals to the product of the factorials of the cell frequencies multiplied by the factorial of the sum of the cell frequencies.

$$p=\frac{(A+B)!\,(C+D)!\,(A+C)!\,(B+D)!}{N!\,A!\,B!\,C!\,D!}$$

In order to test a hypothesis, one must calculate the probability of the observed contingency table and all less likely results and sum the probabilities. If the resulting probability is less than the stated critical level of α, the null hypothesis is rejected. For further details on the test, one should refer to Siegel.[1]

For purposes of this research, the critical value of α will be $p=.10$. The author has no basis on which to establish the relative risk of accepting a false hypothesis as compared to rejecting a true hypothesis. It is argued, however, that since a major task here is to discover new hypotheses for further study, that the chance of being wrong one time out of ten in not rejecting a hypothesis of "no relationship" is acceptable. A 10 per cent significance level is not unusual in the social sciences.

In Table 6, hypothetical data are arranged in crossbreak tables. "A crossbreak is a numerical tabular presentation of data, usually in frequency or percentage form, in which variables are juxtaposed in

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[1] S. Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw Hill, 1956), pp. 96-101.

order to study the relationship between them."[1] Crossbreaks are useful primarily with nominal data, but may be employed wherever data can be logically dichotomized, as is the case here. If a line drawn connecting the high numbers in the table slopes to the right, a positive relationship between the variables is demonstrated. If the line slopes left, the indicated relationship is negative. If the line is level, no relationship is indicated. The greater the difference between the sums along the diagonals, the stronger the indicated relationship. In Table 6 are illustrated a strong positive relationship and a weak negative relationship.

Table 6. Crossbreak Analyses of Hypothetical Data Demonstrating a Strong and a Weak Positive Relationship Between Two Variables

		Variable A	
		High	Low
Variable B	High	85	15
	Low	10	90

A Strong Relationship

		Variable B	
		High	Low
Variable B	High	49	51
	Low	52	48

A Weak Relationship

Data Collection and Preparation

Only the methods relative to testing of the hypotheses are described in this chapter. Those methods pertinent to identification of possible new explanation of campground attractiveness are described in Chapter V. Each campground in the least-attractive and the most-attractive sets was visited on one of two trips made in July of 1969. The first trip included Hartwick Pines and Cheboygan. The second trip, made one week later, included the remaining campgrounds beginning at Tawas Point[2] and circling south, then west and north again. Both trips originated and ended in Traverse City. Campgrounds were visited in the following order. Starred campgrounds are in the most-attractive set.

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[1] Fred N. Kerlinger, Foundations of Behavioral Research (New York: Holt, Rinehart and Winston, Inc., 1964), p. 625.

[2] Tawas Point was first included in the least-attractive set, but was dropped because data on length-of-stay was available for only one year.

1. Hartwick Pines
2. Cheboygan
3. Gladwin
4. Bay City
5. Metamora-Hadley*
6. Island Lake
7. Holland*
8. Grand Haven*
9. White Cloud
10. Silver Lake*
11. Ludington*
12. Interlochen*

Data pertaining to the independent variables were collected by interviewing park personnel and by inspecting the campground and its environs. The items asked about in the interview relevant to the testing of the hypotheses and items on the check list of services, activities, and recreational water characteristics are collected in Appendix A. Wherever characteristics not included on the check list but falling within the domain of the independent variables were observed, they were recorded. Observations were recorded on the Park Inventory Form or on magnetic tape for later transcription, assembly, and analysis.

Operational Hypotheses

A research hypothesis states a relationship among concepts. The relationship proposed between "attractiveness" and "index of activity potential" is an example. In this form, no test of the hypothesis can be made. "Attractiveness" and "activity potential" must be measured. That is, they must have numbers assigned to them according to some set of rules. In order to assign numbers, each concept must be paired with an operation which is a measurable thing that serves as a proxy for the concept in the test of the hypothesis. This section first describes the measurement of the dependent variable, "attractiveness," then the measurement of the independent variables, and states the hypotheses in operational or measurable terms.

Attractiveness as the Average Length-of-Stay

A thing that is attractive has the power to draw other things to itself. When applied to campgrounds, attractiveness refers to the campground's ability to draw users. Of course, when applied to things like campgrounds, attractiveness is not a real force exerted upon a potential user. Rather, it refers to a set of characteristics of the campground that motivates the potential user to visit it. The power to attract derives from an expectation on the part of the potential visitor that he will be pleased or satisfied as a result of the visit.

Both empirical evidence and psychological theory support the contention that the length-of-stay at a campground will vary with the satisfaction experienced by the user. McClelland has developed a theory of motivation based on the results of several years of laboratory experimentation.[1] A motivation can be described as a need to approach or avoid a class of situations based on a subjective probability that the class of situations will arouse positive or negative affect, (pleasure or pain). The individual assigns the probability on the basis of experienced association between the situation and affect. Individuals strive to maintain contact with situations associated with pleasure and to break contact with those associated with pain or unpleasantness. This definitely suggests that campers would stay longer at pleasant places than at unpleasant places and that the average length-of-stay at a campground is a measure of its attractiveness.

Empirical evidence from research by LaPage associating the length-of-stay by a camping party at a campground with the level of satisfaction they reported is summarized in Table 7.[2]

Table 7. Average Lengths of Visits of Camper Groups at Different Satisfaction Levels[a]

Satisfaction Level	Length-of-Stay
Highly satisfied	4½ Days
Well satisfied	3½ Days
Satisfied	3¼ Days
Dissatisfied	1½ Days

[a]After LaPage, (1968), op. cit., p. 3.

A camping trip does not always include a visit to just one campground. More often, the camper makes a circuit, stopping several places on his way. Might this not suggest that in view of the limited time available to most vacationers, the length-of-stay for any campground is fixed in advance? Evidently, that is not the case. LaPage found the schedules of campers he studied to be sufficiently flexible to permit changes amounting to several days in the time they planned to stay at a given campground.[3]

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[1]David C. McClelland, et al., The Achievement Motive. (New York: Appleton-Century-Crofts, 1953), Chapter 1.

[2]LaPage, The Role of Customer, p. 3. [3]Ibid., p. 7.

Michigan State Park policy requires that camping parties register and pay a fee in order to use campsites in developed camping areas. As a result of fiscal control, there are accurate data available on the number of visitors and their length-of-stay extending back several years. It is possible, therefore, to operationalize attractiveness as the average number of days registered per visit at a given campground by camping parties if the set of campgrounds studied consists of those developed campgrounds in State Parks in Michigan's lower peninsula.

Average length-of-stay is a good measure of campground attractiveness. Even good measures have their weaknesses, however. For example, significant relationships have been observed between length-of-stay and the type of equipment a camper uses.[1] Users of more mobile equipment tend to stay for shorter periods. Thus, campgrounds which have a relatively high proportion of their use by such campers compared to other campgrounds would score lower, perhaps, than normally expected.

Out-of-state users don't stay as long in one place as do Michigan campers on the whole.[2] Campgrounds used by out-of-state campers in greater than usual proportion might appear less-attractive than they really are. Attractive campgrounds near camper origins may be used for weekend and over-night trips, making them appear less-attractive than they really are. Attractive campgrounds near camper origins may be used for weekend and over-night trips, making them appear less-attractive when average length-of-stay is the measure. On the other hand, observation at such campgrounds as Holland State Park suggests there may be a tendency to camp for longer periods of time and commute to work from the campground.

Finally, there may be a number of kinds of campgrounds in the Michigan State Park system. Using average length-of-stay assumes all campgrounds to be "destination" or "resort" type campgrounds to which the user goes and at which he plans to recreate. In fact, there may also be "motel" campgrounds used as overnight stops on the way to somewhere else. This latter type would expect a short length-of-stay and "attractiveness" would have to be measured by some other indicator.

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[1] McGuire and Hodgson, "State Park", p. 42.

[2] Ibid.

Some campgrounds such as South Higgins Lake State Park may serve as both. The result may be an average length-of-stay that underestimates the real attractiveness.

The degree to which average length-of-stay works as a means of ranking campground attractiveness depends upon the degree to which campers are aware of alternative places to camp. Campers who have not adequately sampled the system of campgrounds are uninformed judges and their decisions are suspect. In this time of rapid expansion of the number of campers, there must be a large portion of inexperienced campers, ignorant of the alternative combinations of resources among which they may choose.

Calculating the Average Length-of-Stay

Whenever groups are chosen for comparison on the basis of their extreme scores, there is a danger of assigning elements to the extreme sets which do not really belong there.[1] The average length-of-stay at a given campground is the result of a camper's assessment of the attractiveness of that campground and a number of other unknown, and presumably random effects. During a given year, a number of unusual events may occur at a campground affecting the average length-of-stay. If one were to use the average length-of-stay calculated from the data from a single year, an alewife die-off or bug infestation might drop a truly attractive park out of the extreme set. In order to guard against this, the average length-of-stay is calculated from data collected during four years, 1964 through 1967.[2]

For each of these years, for each park in the lower peninsula, the Parks Division of the Michigan Department of Natural Resources was able to provide the total camp-days and the total number of camps (parties) from which the average length-of-stay was computed. The mean and standard deviation of the resulting distribution were calculated. The mean average length-of-stay for all lower peninsula state

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[1] For further discussion of the regression phenomenon, see Donald T. Campbell and Julia C. Stanley, Experimental and Quasi-Experimental Designs for Research (Chicago: Rand McNally & Co.,1963), pp. 10-12.

[2] Michigan Department of Natural Resources, "Survey".

park campgrounds was 2.52 days. The standard deviation was .67 days. The set of most-attractive campgrounds consists of those where the average length-of-stay was equal to or exceeded 3.19 days; 3.19 days is equal to the mean average length-of-stay plus one standard deviation. The set of least-attractive campgrounds consists of those with average lengths-of-stay equal to or less than 1.85 days, the mean average length-of-stay minus one standard deviation.

The most-attractive set of campgrounds included Interlochen, Ludington, Silver Lake, Grand Haven, Holland, and Metamora-Hadley. The least-attractive set included Bay City, Cheboygan, Gladwin, Hartwick Pines, White Cloud, and Island Lake. Tawas Point was originally included among the least-attractive campgrounds, but was dropped because data on length-of-stay were available for only one year.

Activity Opportunities

A check sheet of activities likely to be found in a state park campground was designed. Each of the campgrounds in the most-attractive and the least-attractive sets was inventoried, and the sum of activities marked on the check list constitutes the score for the independent variable in this hypothesis. Activities included in the check list are: interpretive service (three times per week or more), trails for hiking, hunting in area (less than one half hour drive), fishing in area (less than one half hour drive), utility play field, playground equipment, water-skiing, swimming, library, teen recreation center within one half mile of campground, and a pavilion.

Number of Services

There are two service scores. Score A is the sum of values assigned to toilets, their condition, and to showers. A flush toilet is scored1, a box toilet, 0. If they are generally clean, an additional score of 1 is awarded. If generally dirty, they are scored 0. If the campground is equiped with showers, it is awarded an additional point. Score B is the sum of the reciprocals of the distance from the campground to a laundry, store, gas station, restaurant, boat launch, and boat rental.

Activity Potential of Recreational Water

The activity potential of recreational water is defined as the number and range of recreational activities it can support. No direct measure was possible, but certain characteristics may be assumed to be associated with greater activity potential than others.

The characteristics of the wet and dry beach compose the first set. Sand is most desirable. It is most comfortable to walk and lie upon. It provides the opportunity for child's play and it usually is clean. A grassy dry beach is good except that it limits the opportunities for children and is cooler for sunbathers and perhaps less clean. Gravel is less comfortable than sand or grass, harder to walk or lie upon. It provides more opportunities for the collector and is good for children, but is inferior to sand. Rock is uncomfortable to walk and lie upon unless it is massive, and organic soils are dirty, uncomfortable to walk upon, usually wet, and are often dangerous to swimmers when they are part of the wet beach. Beach composition, both dry and wet, is rated as follows.

sand-40 grass-30 gravel-20 rock-10 organic-0

Observation suggests that the water-land interface provides the focus of most kinds of water-based recreation with the exception of cruising and sailing. Waterskiers show off to those on shore, fishermen depend on the shallows and weed beds, swimmers, collectors, and walkers use the edge of the water. The important feature of a shore, then, is probably its usable length rather than its area. The second element of the activity potential score is the length of the beach measured in yards.

It is assumed that except in the extreme condition where swimming is prohibited, the prime water quality criteria are those the user can estimate with the unaided senses. These are clarity, temperature, and odor. Color is subsumed under clarity. Water that looks dirty probably will not appeal to users. Water was judged to be relatively clear, intermediate, or dirty. Clear is assigned 30 points, intermediate is assigned 20 points, and dirty is assigned 10 points. Water color did not vary among the campgrounds sufficiently and was therefore dropped from the scale. Good estimates of the average water temperature were unavailable so that variable too had to be dropped.

Vegetation growing on and off shore reduces the desirability of a recreational water body by making swimming, wading, or sunbathing less comfortable. Except in extreme cases, however, such growths have little negative effect on other types of water sport. Therefore, it will only be scored if it occurs in the designated swimming area or on the designated beach. If there is vegetation on the dry beach, ten points will be subtracted from the score and if there is vegetation on the wet beach, another ten points will be subtracted. Vegetation means woody shrubs on the dry beach and any bottom anchored plants on the wet beach.

A lifeguard provides protection and a measure of supervision of children. In effect, this protection opens the way to a greater range of activities for the parents of young children. Protection is entered in the score of activity potential as ten points if there is such protection and no points if there is none.

"The still waters of lakes and ponds are apparently more attractive than streams and rivers," according to LaPage.[1] If attractiveness of recreational water depends on its ability to support numerous and varied activities, one would expect this finding. The current of streams makes them more dangerous to children. The stream banks, for the most part, in Michigan are overgrown with woody plants, so that opportunities for walking, collecting, and sunbathing are restricted. Banks are usually composed of organic soils and except on the very large streams, water-skiing and power boating are not feasible.

Great Lakes beaches are most likely to be open and composed of sand, but the inland seas are often stormy and dangerous to small craft and water-skiers. Inland lakes are somewhat less likely to have fine sandy beaches, but they more often permit other activity. The type of water body will be scored thus: inland lake, 30, Great Lake, 20, and river or stream, 10.

The magnitudes of the numbers assigned represent the author's estimate of the relative importance of the factors. In the absence of empirical evidence, these estimates can only be made on the basis of personal judgement and experience. Errors in weighting should not be

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[1] LaPage, Successful Private Campgrounds, p. 9.

serious enough to affect the testing of the hypotheses, but scores should not be taken as authoritative evidence of the relative importance of factors. The Index of Activity Potential for Recreational Water is the sum of the coefficients assigned to the characteristics just described.

Operational Hypotheses

Operational Hypothesis I

Campgrounds in the most-attractive set will score higher on the Recreational Opportunities Scale than will campgrounds in the least-attractive set.

Operational Hypothesis II

Campgrounds in the most-attractive set will score higher on the Services Scale than will campgrounds in the least-attractive set.

Operational Hypothesis III

Adjacent recreational waters will have higher indices of Activity Potential for campgrounds in the most-attractive set than for campgrounds in the least-attractive set.

Summary

It is hypothesized that a campground's attractiveness is related to the number of activity opportunities it presents, the services available to campers, and the activity potential of adjacent recreational waters. The hypotheses, the operations for the variables, and a study design for testing the hypotheses which compares a most-attractive set of campgrounds with a least-attractive set are discussed in this chapter. Had the entire thrust of the study been to test three hypotheses, a design incorporating random sampling would have been more appropriate. This study, however, seeks some new, perhaps subtle, variable or combination of variables to explain differences in campground attractiveness. The comparison of extremes is expected to magnify the differences, increasing the likelihood that new variables will be found upon inspection. The process and results of the search

for new explanations are described in Chapter VI. Pertinent assembled data from the study and the analysis and results of the test of the hypotheses are presented in the next chapter.

CHAPTER IV

ANALYSIS AND RESULTS

Assembled Data and Tests for Relationships

Introduction

This chapter concerns the presentation and analysis of data pertinent to the testing of the three hypotheses discussed in Chapter III. Other data which pertain to the search for new explanations of variability in attractiveness will be introduced and analyzed in Chapter V. This chapter is organized by hypothesis. The overall score for each independent variable will be analyzed and then those components which appear promising in the assembled data will receive attention. Assembled data are presented in sections, that pertinent to each hypothesis under that hypothesis.

These data are analyzed through the use of 2x2 crossbreaks. "A crossbreak is a numerical tabular presentation of data, usually in frequency or percentage form, in which variables are juxtaposed in order to study the relationship between them."[1] Crossbreaks are useful primarily with nominal data, but may be employed wherever data can be logically dichotomized, as is the case here. The Fisher exact test is used to calculate the probability of occurrence for the observed crossbreak.

Operational Hypothesis I

Campgrounds in the most-attractive set will score higher on the Recreational Opportunities Scale than those in the least-attractive set.

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[1] Kerlinger, Foundations, p. 625.

Table 8. Assembled Data. Scoring of the Recreational Opportunities Scale for the Most-Attractive and Least-Attractive Sets of Lower Peninsula Michigan State Park Campgrounds, 1969

Item	Most-Attractive Campgrounds						Least-Attractive Campgrounds					
	Interlochen	Ludington	Silver Lake	Grand Haven	Holland	Metamora-Hadley	Bay City	Cheboygan	Gladwin	Hartwick Pines	White Cloud	Island Lake
Interpretive Service	1	1	0	0	0	0	1	0	0	1	0	0
Hiking Trails $\geq$ 1 Mile	0	1	1	0	0	1	1	1	1	1	0	0
Hunting, $\frac{1}{2}$ Hour Drive	1	1	1	0	0	1	1	1	1	1	1	1
Fishing, $\frac{1}{2}$ Hour Drive	1	1	1	1	1	1	1	1	1	1	1	1
Utility Play Field	1	1	0	1	1	1	1	0	1	1	0	0
Playground Equipment	1	1	1	1	1	1	1	1	1	1	1	0
Water-Skiing	1	1	1	0	1	0	1	1	0	0	0	0
Swimming, at Camp	1	1	1	1	1	1	1	1	0	0	0	0
Library	1	1	1	1	1	0	1	0	1	1	1	0
Teen Recreation Center	1	0	1	1	1	0	1	0	0	0	0	0
Pavilion	1	1	0	1	1	0	0	0	1	0	1	0
Campground Totals	10	10	8	7	8	6	10	6	7	7	5	2

The median total score for recreational opportunities is 7.5. There are four most-attractive campgrounds with scores of 7.5 or more and one least-attractive campground with a score of 7.5 or more. These data are arrayed in crossbreak form in Table 9.

Table 9. A Crossbreak Showing Frequencies of High-Recreation Opportunity and Low-Recreation Opportunity Arranged Against High and Low Campground Attractiveness

		Campground Attractiveness	
		High	Low
Recreational Opportunity	High	4	1
	Low	2	5

The crossbreak indicates a positive relationship between campground attractiveness and recreational opportunity as it was measured here. The relationship is not significant at the 10 per cent level, however. ($p=.11+$) Inspection of Table 9 suggests important differences may exist between the two sets of campgrounds in the activities, waterskiing and swimming at the campground, the availability of a nearby teen recreation center, and the presence of a pavilion at the campground. These activities are analyzed separately on crossbreaks shown in Table 10.

Table 10. Crossbreaks Arraying Waterskiing, Swimming at Camp, Teen Recreation Centers, and Pavilions Against Campground Attractiveness

		Campground Attractiveness	
		High	Low
Waterskiing	Yes	4	2
	No	2	4

		Campground Attractiveness	
		High	Low
Teen Recreation Center	Yes	4	2
	No	2	4

		Campground Attractiveness	
		High	Low
Swimming	Yes	6	2
	No	0	4

		Campground Attractiveness	
		High	Low
Pavilion	Yes	4	2
	No	2	4

Results

The null hypothesis could not be rejected in favor of the hypothesis that campgrounds in the most-attractive set will score higher on

the Recreational Opportunities Scale than will campgrounds in the least-attractive set at the 10 per cent significance level. The relationships between waterskiing, a pavilion, or a close-by teen recreation center and campground attractiveness were not significant at the 10 per cent significance level. A significant positive relationship between the availability of swimming at the campground and campground attractiveness was observed. ($p=.05$) This finding reinforces the frequent observation in the literature that the opportunity for swimming is important to campers.

Operational Hypothesis II

Campgrounds in the most-attractive set will score higher on the Services Scale than will campgrounds in the least-attractive set.

Table 11. Assembled Data. Scoring of the Services Scale for the Most-Attractive and Least-Attractive Sets of Lower Peninsula Michigan State Park Campgrounds, 1969

SCORE A	Most-Attractive Set						Least-Attractive Set					
	Interlochen	Ludington	Silver Lake	Grand Haven	Holland	Metamora-Hadley	Bay City	Cheboygan	Gladwin	Hartwick Pines	White Cloud	Island Lake
Toilets	1	1	1	1	1	1	1	0	1	1	1	0
Condition	1	1	1	1	1	1	1	1	1	1	1	0
Showers	1	1	1	1	1	1	1	0	1	1	1	0
Campground Totals	3	3	3	3	3	3	3	1	3	3	3	0

SCORE B	Most-Attractive Set						Least-Attractive Set					
	Interlochen	Ludington	Silver Lake	Grand Haven	Holland	Metamora-Hadley	Bay City	Cheboygan	Gladwin	Hartwick Pines	White Cloud	Island Lake
Laundry	1	.07	.5	.5	.125	.05	1	.143	1	.07	1	.25
Store	1	1	1	.5	1	1	1	.33	1	1	1	.125
Gas Station	1	.125	1	.5	.25	.1	.5	.25	1	.07	1	.125
Restaurant	1	1	1	1	1	.05	.25	.125	1	.07	1	.25
Boat Launch	1	1	1	.25	1	1	1	.33	0	0	.125	.167
Boat Rental	1	0	1	.25	0	1	.167	.33	.125	0	.125	1
Campground Totals (rounded to one decimal place)	6	3.2	5.5	3	3.4	3.2	3.9	1.5	4.1	1.2	4.2	1.9

There are four possible total scores for Services Score A: 1, 2, 3, and 4. The median possible score is 2.5. All six most-attractive campgrounds scored above 2.5 while four of six least-attractive campgrounds scored above 2.5. Table 12, Part A, presents this data in crossbreak form. No relationship is indicated. The mean score for Services Score B is 3.433. Two most-attractive campgrounds are above the mean, while three least-attractive campgrounds are above this score. Table 12, Part B, is a crossbreak of this data. Again, no relationship is observed. There is some indication, however, that attractive campgrounds may be more remote from services, while proximity to services makes no difference with regard to less-attractive campgrounds.

Table 12. Crossbreaks Arraying High and Low Services Scores Against High and Low Campground Attractiveness Scores

		Campground Attractiveness: High	Campground Attractiveness: Low
Services Score A	High	6	4
	Low	0	2

		Campground Attractiveness: High	Campground Attractiveness: Low
Services Score B	High	2	3
	Low	4	3

Inspection of the assembled data in Table 11 reveals most items to be about evenly divided between the two sets of campgrounds. The near-by availability of a restaurant or coffee shop and a boat launch appear to be exceptions. A restaurant was available within one mile of the campground in five of the six most-attractive campgrounds and in only two of the least-attractive campgrounds. Boat launches were available at five of the six most-attractive campgrounds. This data is arrayed in crossbreak form in Table 13.

Results

There is no evidence of a relationship between either services score and campground attractiveness. There is apparently a positive relationship between campground attractiveness and the availability of a restaurant near-by. The relationship is not significant at the

10 per cent level, however. (p=.11+) There is a significant positive relationship between the availability of a boat launch and campground attractiveness. (p≤.05)

Table 13. Crossbreaks Arraying Availability of a Boat Launch at the Campground, and of a Near-by Restaurant Against Campground Attractiveness

		Campground Attractiveness	
		High	Low
Boat Launch	Yes	5	1
	No	1	5

		Campground Attractiveness	
		High	Low
Restaurant Near-by	Yes	5	2
	No	1	4

Operational Hypothesis III

Adjacent recreational waters will have higher indices of Activity Potential for campgrounds in the most-attractive set than for campgrounds in the least-attractive set. Please see Table 14.

The six most-attractive campgrounds had scores equal to or greater than the median on each item. The median total number of item scores above the the median for the item was 5.5. All least-attractive campgrounds scored below the median; all most-attractive campgrounds scored above the median.

Table 15. A Crossbreak Arraying Frequencies of High and Low Indices of Activity Potential of Adjacent Recreational Water Against High and Low Campground Attractiveness

		Campground Attractiveness	
		High	Low
Activity Potential of Adjacent Recreational Water	High	6	0
	Low	0	6

A special comment should be made concerning the failure to score the length of recreational beach. Originally, the intention was to score only the protected portion of the beach. However, the amount of protected beach tended to be more or less uniform from campground to campground, and bore little relation to the length of beach actually used by campers and day users in many cases. Several of the Great Lake

Table 14. Assembled Data. Indices of Activity Potential for Recreational Waters Adjacent to Lower Peninsula Michigan State Park Campgrounds in the Most-Attractive and the Least-Attractive Sets, 1969

Item	Most-Attractive Campgrounds						Least-Attractive Campgrounds						MEDIAN SCORE
	Interlochen	Ludington	Silver Lake	Grand Haven	Holland	Metamora-Hadley	Bay City	Cheboygan	Gladwin Pines	Hartwick	White Cloud	Island Lake	
Inland Lake, Great Lake, or River	30	30	30	20	30	30	20	20	10	0	0	0	20
Dry Beach Composition	40	40	40	40	40	40	30	40	40	0	0	0	40
Wet Beach Composition	40	40	40	40	40	40	40	40	40	0	0	0	40
Length of Designated Beach	(Unable to score satisfactorily.)												
Water Clarity	30	30	30	30	30	30	10	30	20	0	0	0	30
Vegetation on Beach	0	0	0	0	0	0	0	-10	0	0	0	0	0
Life Guard	10	10	10	10	10	10	10	10	0	0	0	0	10
Total items scored equal to and above the median.	6	6	6	6	6	6	4	5	3	0	0	0	5.5

parks had almost limitless beach available to those who wished to walk it. At other campgrounds, there were no measures of total, usable shoreline.

Results

There is evidence of a significant positive relationship between the Index of Activity Potential for adjacent recreational waters and campground attractiveness. ($p \leq .005$)

Inspection of the data in Table 14 reveals that three of the least-attractive campgrounds have no adjacent recreational water and in one of the remaining cases, the campground is riparian to a river. The river is small and does not permit swimming to much extent. It is useful only for wading and sunbathing. The composition of the wet beach is uniform in all cases where there is adjacent recreational water. There is only one case of vegetation on the beach, and of no lifeguard with recreational water. The type of water body seems most important. All but one most-attractive campground provides close access to an inland lake; none of the least-attractive do. Four of six most-attractive campgrounds provide access to both Great Lakes and inland lakes. Water clarity suffers at two of the three least-attractive campgrounds where there is adjacent recreational water.

Summary

The null hypothesis could be rejected in favor of the alternate only in the case of Hypothesis III. In Hypothesis I, the recreational opportunity of swimming at the campground was significantly related to campground attractiveness. In Hypothesis II, the availability of a boat launch at the campground was significantly related to campground attractiveness. Apparently adjacent recreational water is important to campground attractiveness as measured by the average length-of-stay of camping parties registered there. More importantly, the evidence suggests that the ability to support a large number and diverse range of recreational activities is the important determinant of the attractiveness of recreational water.

The practical consequence of the apparent importance of the activity potential of adjacent recreational water in determining campground attractiveness may be evident at Holland State Park. Recent efforts to accomodate demand and protect the Lake Michigan frontage resulted in the establishment of an inland campground remote from Lake Michigan and across a busy street from Lake Macatawa. Lake Macatawa has a highly developed shore line and would score low on activity potential. As a result, it is possible to predict the average length-of-stay at Holland State Park campground will decrease, especially so if only inland campground sites are included in the calculations. An opportunity exists here for testing the hypothesis that activity potential of adjacent recreational water is important to campground attractiveness with a fairly tight quasi-experimental design at small cost.

CHAPTER V

OTHER CAMPGROUND VARIABLES PERHAPS RELATED TO CAMPGROUND ATTRACTIVENESS

Introduction

Scientific theories grow and are validated through the proposition and testing of hypothesized relationships among variables. Hypotheses for testing are generated by scientists on the basis of experience. An important part of the scientific investigation of a field of study is the acquisition of experience by systematic exploration of the subject matter. This chapter describes such an exploration and advances new hypotheses about campground attractiveness subject to testing at another time with independent data. Two approaches were used. The first was the comparison of campgrounds thought to be most-attractive with campgrounds thought to be least-attractive. The second approach used open-ended interviews with a sample of state park campers in which they were asked to talk about what they liked and disliked in campgrounds.

Methods of Campground Comparisons

The existence of some as yet unidentified variable or variables explaining the apparent differences in campground attractiveness was suspected from the incomplete explanations offered by other works reviewed in Chapter II. Because the variables sought had escaped detection by earlier investigators, it was surmised that they would be relatively obscure. It was necessary, therefore, to maximize the variance when choosing campgrounds for observation so that differences between relatively attractive and relatively unattractive campgrounds would be as marked as possible. In order to accomplish this, a

most-attractive set of campgrounds as measured by average length-of-stay was compared with a least-attractive set.

The strengths and weaknesses of the average length-of-stay as a measure of attractiveness are discussed earlier in the thesis. The most-attractive campgrounds were those with scores higher than plus 1 standard deviation from the mean. The least-attractive campgrounds had scores lower than minus 1 standard deviation from the mean.

Having identified sets of state parks at opposite ends of an attractiveness continuum, it remained to systematically explore their differences. This was done by making on-site inventories.

Upon arriving at a campground, a brief reconnaissance was made by driving around the camp where permitted, and by walking. Next, park personnel were contacted. Permanent personnel were interviewed whenever it was convenient, but in many cases the short time available made it difficult to contact them and experienced seasonal personnel were questioned instead. The interviews were open-ended and comments pertaining to visitor satisfaction or peculiarities of use were followed up with closer questioning. The interviews had as their core the Park Inventory. (see Appendix A)

After completing the interview with the ranger, a more detailed reconnaissance of the campground facilities and surrounding area was made. Bathhouses were inspected, the water was tasted, topography, shading, and screening were noted. The swimming beach was inspected and service facilities, public and private, were visited where practical. The latter were often located some distance from the campground. Records of observations were made on the Park Inventory Form and on magnetic tape from which they were later transcribed. In addition to the on-site inventories, descriptive material from the Michigan Pictorial Campground Guide[1] and the files of the Department of Natural Resources contributed to the data from which the following hypotheses were generated.

The process of arriving at a hypothesis out of the collection of raw data is largely intuitive. Had time and other resources permitted,

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[1]Dirk C. Bloemendaal, Michigan Pictorial Campground Guide (Grand Rapids, Michigan: Royal Lithographing, 1969).

factor analysis might have contributed to the combination of variables. However, mapping and the use of the crossbreak table to systematize the data must suffice as aids to intuition here.

Analysis of Inventory Data

Campgrounds built on rolling terrain may be more attractive than campgrounds built on level terrain. Campground attractiveness is arrayed against type of terrain in the crossbreak in Table 16. A negative relationship is indicated by the upward slope of an imaginary line through the high numbers in the table. The probability of observing a situation this extreme or more so if there were no difference between campgrounds on rolling and level terrain with regard to attractiveness is p=.11+. This is not significant at the 10 per cent level, but seems unusual enough to warrent further testing. Therefore, it is suggested the above hypothesis be tested in some further research where more adequate measures of terrain are employed.

Table 16. A Crossbreak Showing a Relationship Between Campground Attractiveness and Terrain

		Campground Attractiveness	
		High	Low
Terrain Levelness	High	2	5
	Low	4	1

Rolling terrain may permit a camper a longer and more varied view than does level terrain. It also provides better drainage, if campsites are not located in hollows. It is likely, too, that a rolling terrain forces a less regimented lay-out with winding rather than straight roads, unequal site sizes, and irregular building alignment. All this may add to the change of scene sought by the typically urban-suburban camper.[1]

There may be a preference for campgrounds located to the west in Michigan. Only one of the most-attractive campgrounds was located east of the center line of the lower peninsula, while only one of the

[1] Mueller, "Participation", p. 63.

least-attractive campgrounds was located west of the center line. The approximate locations of lower peninsula Michigan State Park campgrounds and the average length-of-stay recorded there are shown in Figure 1. The average length-of-stay at campgrounds in eastern Michigan is 2.43 days, while in western Michigan it is 2.79 days. The means of the two sets are separated by more than one half the standard deviation of the population.[1]

Campgrounds which offer views including little permanent evidence of the presence of man may be preferred to those which offer views of more developed areas. Of the least-attractive campgrounds, all are inland except Cheboygan and Bay City which are located on Lake Huron. Only two most-attractive campgrounds are located inland, Interlochen and Metamora-Hadley. This would seem to indicate a preference for Great Lakes over inland lakes, contrary to expectation based on activity potential. However, of the four most-attractive campgrounds on Lake Michigan, only Grand Haven does not have an inland lake as well.

Few who have experience in Michigan State Parks will deny the attractiveness of a campground with a Great Lakes vista. Still, two campgrounds on the Great Lakes are among the least-attractive and two inland campgrounds are among the most-attractive. Inspection of these campgrounds revealed the two most-attractive inland campgrounds, Metamora-Hadley and Interlochen, to be located on lakes the shores of which appeared to be relatively undeveloped. The two least popular Great Lakes campgrounds, Cheboygan and Bay City, on the other hand, look out upon bays at least one side of which are commercially developed. It is hypothesized, therefore, that an "uncivilized" vista is preferred to a view of the works of man.

It is perhaps less important what the campground looks like than what it looks at. The vista and not the vantage point is the focus of the visual experience. Even though Grand Haven State Park Campground is only a strip of sand at the edge of town, it borders the untamed wilderness of Lake Michigan that stretches without permanent mark of

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[1]Again, statistics presented are descriptive. No tests of significance are possible or needed for the whole population is used.

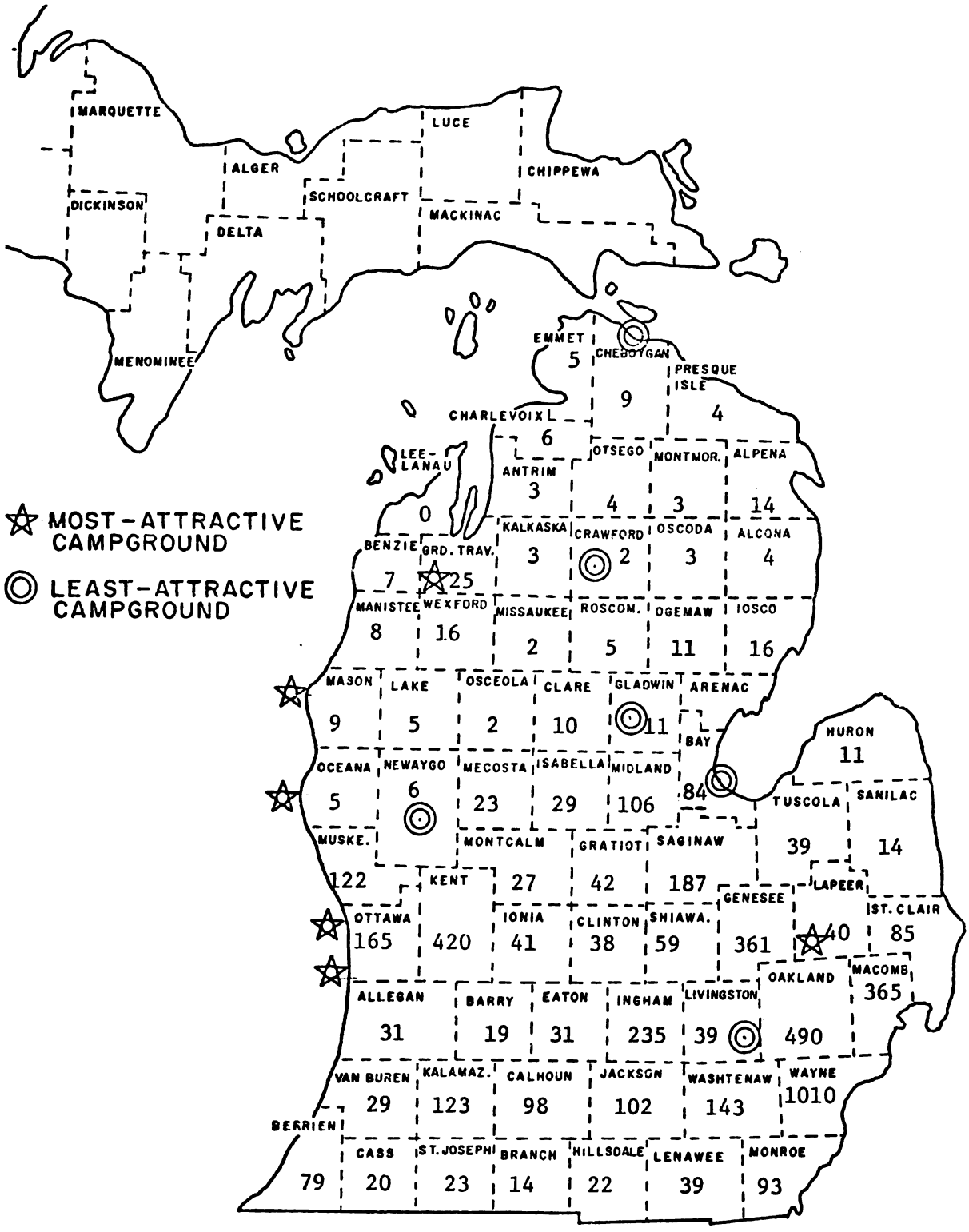

Figure 2. Geographic Distribution of Origins of Campers Using State Park Campgrounds in Michigan's Lower Peninsula, 1968

man as far as the eye can see. From those shores one experiences, perhaps, some of the vastness of the earth, some of the freedom of open country. But turn around or look across a bay at buildings, smoke stacks, or traffic, as one does from Bay City, and the feeling is gone. The experience is changed although the vantage remains the same.

Proximity to the recreation resource may be as important as proximity to the user's home in determining campground attractiveness. The distribution of origins from a sample of campers using lower peninsula State Park campgrounds is mapped in Figure 2. The numbers on this figure represent about one fiftieth of the camping parties registered at lower peninsula State Park campgrounds during the months of June, July, and August, 1968. Data were collected by the Michigan Department of Natural Resources. A discussion of procedures and results can be found in McGuire and Hodgson, "State Park Camper Behavioral Patterns,"pages sixty-seven and sixty-eight.

On this map are plotted the locations of the most-attractive and the least-attractive campgrounds. There appears to be no relationship between camper origins and campground attractiveness as measured here. Additional support for this point is supplied by the distribution of distances traveled to the campgrounds in each set. Histograms of these data presented in Figure 3 are similar for both sets except that the least-attractive campgrounds have lower attendance than the most-attractive campgrounds.

Interview Methods

In about one half of the campgrounds: Cheboygan, Gladwin, Holland, Grand Haven, White Cloud, Silver Lake, and Interlochen, a random sample of six camper groups was interviewed. A series of random numbers were chosen from a table of random numbers and the sites with corresponding numbers were visited. If a chosen site was unoccupied, the next on the list was visited. Only five interviews were made at Grand Haven due to an error in counting. Of the six made at White Cloud, only four were usable because of a malfunction in the tape recorder, and equipment difficulties left time for only two interviews at Gladwin. One of these was a joint interview with two camper groups who had met at the

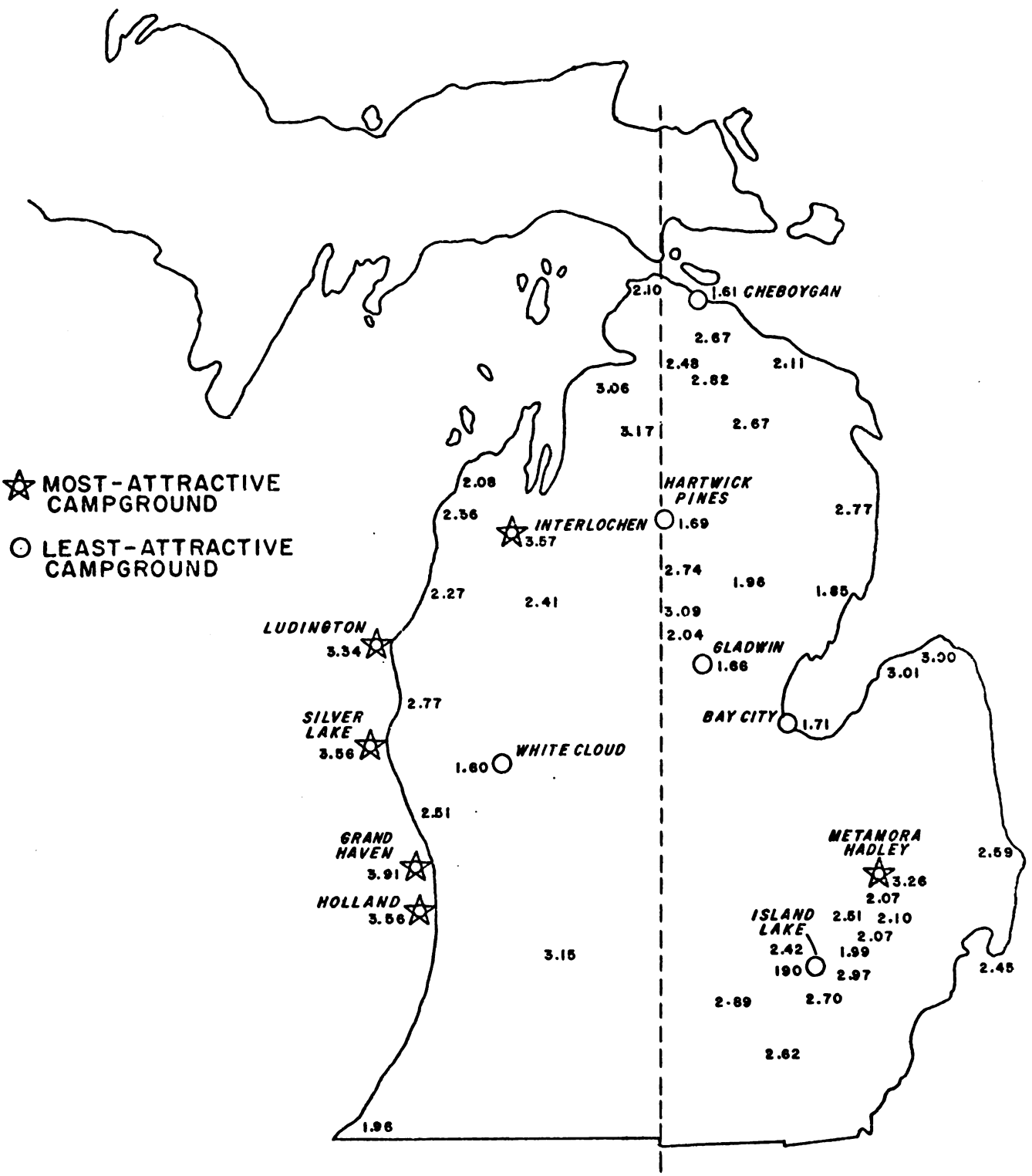

Figure 1. The Average Length-of-Stay at Lower Peninsula Michigan State Park Campgrounds, 1964-1967

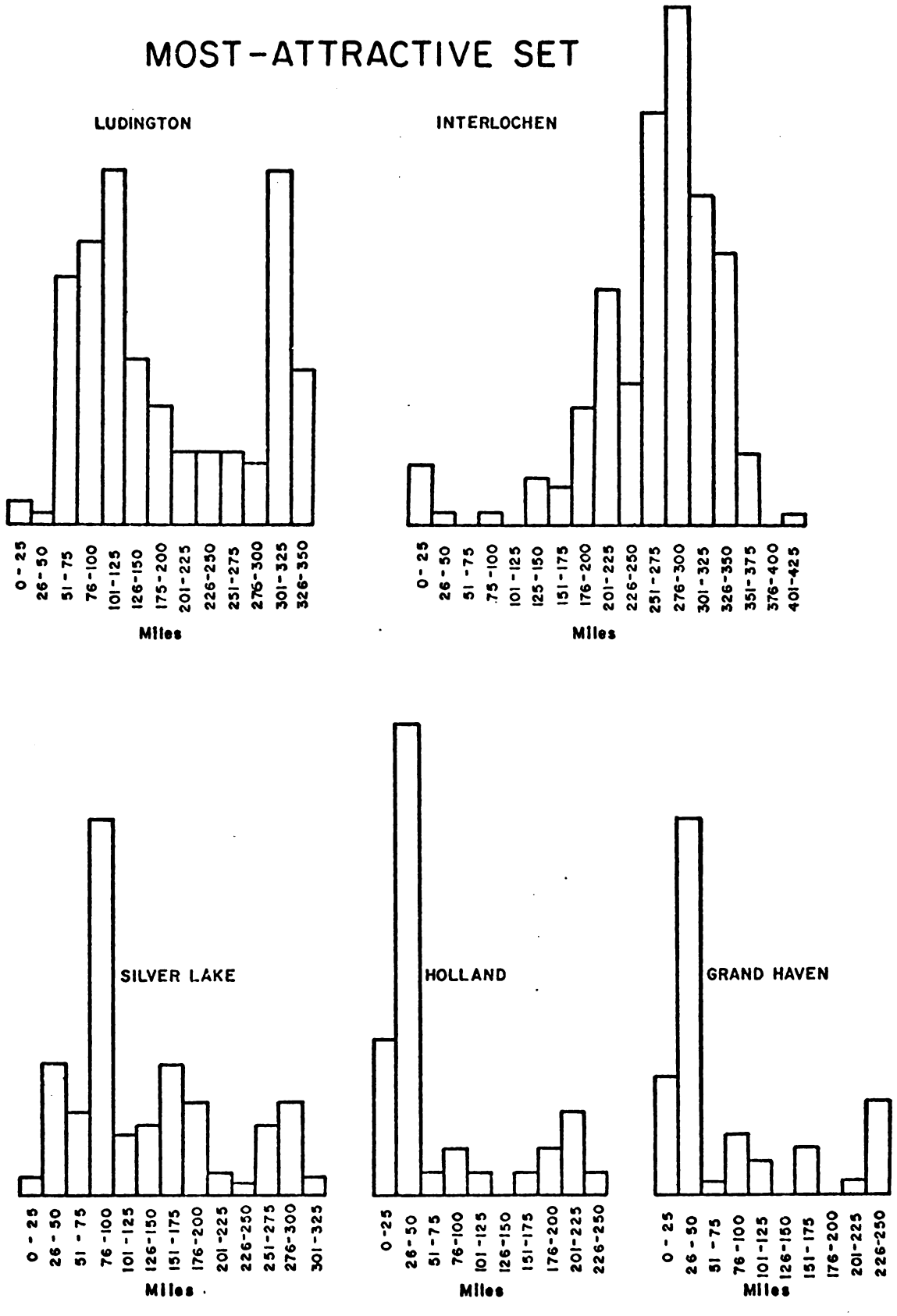

Figure 3. Histograms Showing Distribution of Distances from User Origins to Campgrounds in the Most-Attractive and Least-Attractive Sets, 1968

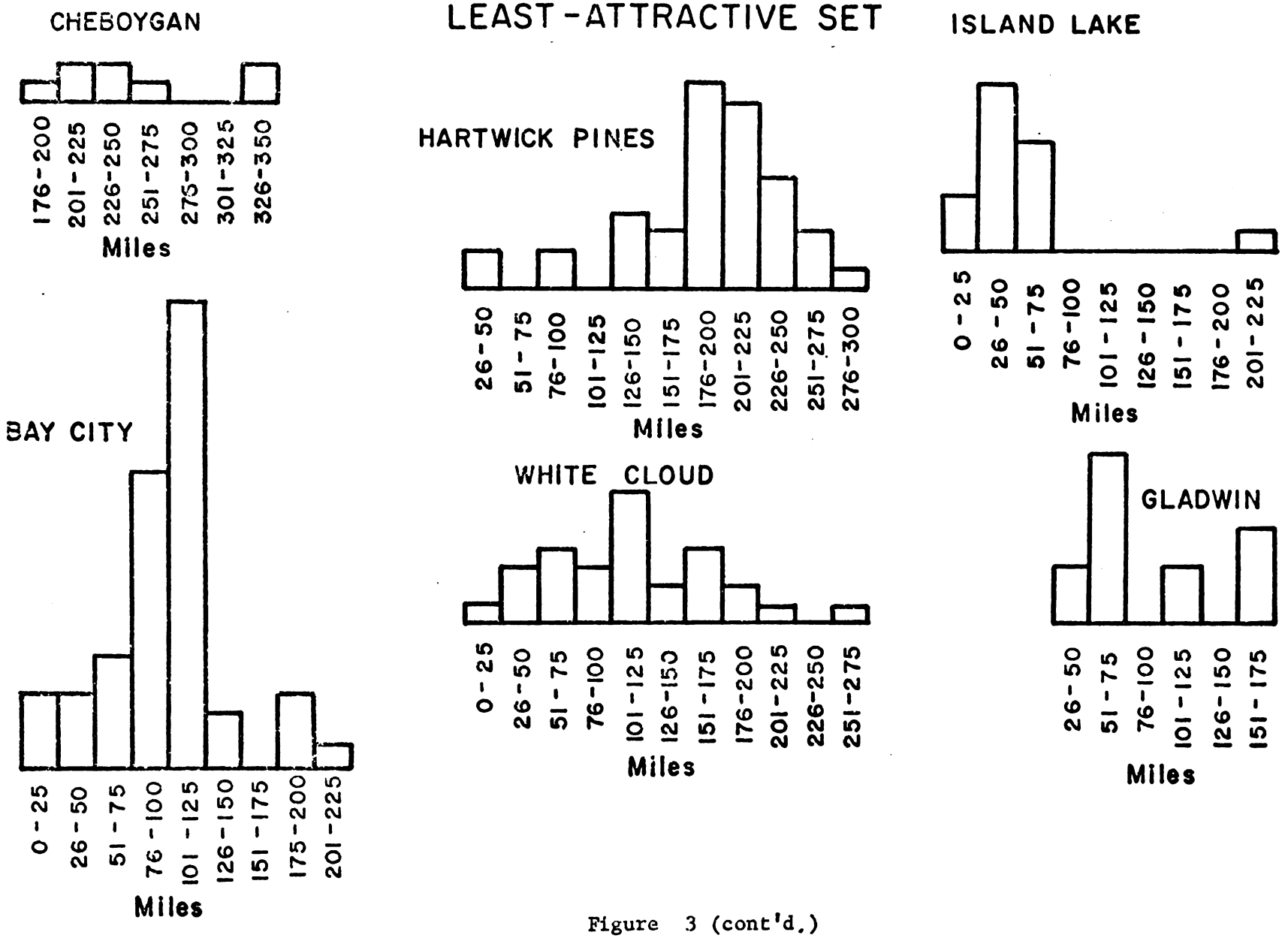

Figure 3 (cont'd.)

campground and were visiting when asked for an interview. Only one party refused the interview, a trailer camper at Grand Haven.

The interviews were made in an effort to discover what it is about campgrounds that campers look for. As much as possible, therefore, the campers interviewed were encouraged to talk about likes and dislikes, not only concerning the particular camp in which the interview took place, but concerning campgrounds in general. A set of questions (see Appendix B) was constructed in advance and served as a structure for the interview. As in the interview with park personnel, appropriate comments were followed up with a series of probes, seeking statements about what makes a good or a bad campground.

A tape recorder was used to record the conversations. The interviewers asked permission to record, and no one refused. There was no apparent timidity about being recorded, and, in fact, after a few minutes, the recorder was ignored and apparently forgotten.

Analysis of Interview Data

The data gathered in the interviews were categorized according to whether the response was a complaint about what was found in a campground or a statement of characteristics sought when choosing a campground. Please see Table 17. Data are further divided according to the campground characteristic with which the comment dealt, and according to the attractiveness of the campground in which the subjects were interviewed. Although every attempt was made to interview a random sample of users registered at the time the campground was visited, neither the campgrounds nor the days of the visit were chosen at random; therefore, no confidence intervals for the data can be calculated.

Table 17. Complaints and Compliments about Campgrounds from Interviews with 29 Michigan State Park Campground User Groups, 1969

Comments	Number of Parties
MOST-ATTRACTIVE CAMPGROUNDS COMPLIMENTS	
Flush toilets	14
Showers	14
Clean restrooms	2
Hot water	1
Running water	1
Good drinking water	1
Clean campsites	8
Larger campsites	8
Campsite near lake/beach	5
Campsite close to home	4
Campsite shaded	3
Screening between sites	3
Remote campgrounds	1
Grassy campsites	1
Car access to site	1
Fewer people/not too crowded facilities	5
Lots of teenagers around	4
Family atmosphere	2
Quiet	1
Beach facilities/swimming water	19
Sand	5
Shallow water for children	3
Large lake for boats/lake	3
Fishing	2
Boats (in ship canal at Holland)	1
Boats for rent	1
Nearer points of interest	5
Teenage and children's activities/sports	4
Naturalist/movies at night	3
Trees	3
Nature trails	3
Wild life	1
Picnic spots	1
MOST-ATTRACTIVE CAMPGROUNDS COMPLAINTS	
Overcrowding	7

Table 17 (cont'd)

Comments	Number of Parties
Noise (Teens and traffic)	7
Dissatisfied with new campground at Holland	4
Not enough parking	2
New trailer no-renting rule at Grand Haven	1
Fee too high	2
Lack of reservation system	3
Campsite's boundaries poorly marked	1
Dirty grounds and facilities	5
Campsite not grassy/sand drifts	2
Unenforced rules	1
Curfew objected to	1
LEAST-ATTRACTIVE CAMPGROUNDS COMPLIMENTS	
Showers	9
Clean sanitary facilities	7
Flush toilets	3
Running water	3
Laundry	1
Mirror	1
Big lavatories	1
Town near-by	4
Store in park	2
Firewood available	2
Rustic, isolated park	11
Clean park	5
Cover	3
Quiet	2
Friendly people	2
Small park	1
Scenery	1
Large Sites	1
Swimming	4
Beach/Campground on lake	4
Fishing	4
Sound of water	1
Play areas	1
Teen activities	1

Table 17 (cont'd) [a]

Comments	Number of Parties
LEAST-ATTRACTIVE CAMPGROUNDS	
COMPLAINTS	
Too crowded (park or campsite)	10
Too noisy	4
Being turned away for lack of space	4
People cutting through campsite	1
Local kids' mischief in campground	1

[a]Comments by campers concerned all camping experience by user and are not necessarily specific to the campground in which they were interviewed. Although campsites were sampled at random in those parks where interviews were made, the selection of parks for interview and the non-random choice of interview times make estimates of sample validity impossible.

Results

The responses to the interview catalogued in Table 17 support the hypothesis that flush toilets and showers are services important to campground attractiveness. Only two campgrounds did not provide showers and flush toilets. Both were in the set of least-attractive campgrounds. Because these services were so uniformly offered, comparison of the two extreme sets of campgrounds failed to demonstrate important differences on the variable. However, about one half (17/29) of the parties interviewed said flush toilets were important to them, while about two thirds (23/29) felt showers were important.

Recreational water was mentioned as important in making campground choices by 27 of 29 parties. Responses frequently contained references to activity opportunities such as places to see or things for adults, children, and teenagers to do. These support the general idea that it is potential for supporting appropriate activity that determines much of a campground's attractiveness.

A relationship between crowding and campground attractiveness is suggested in the literature.[1] No test is attempted here, however.

[1]LaPage, The Role of Customer Satisfaction, p. 7; and Reid, et al., The Quality of Outdoor Recreation, p. 30.

McGuire and Hodgson[1] attempted to identify such a relationship using data similar to that used here and found, contrary to expectations, a positive relationship between crowding and length-of-stay. They suggest the attractiveness causing crowding also promotes longer stays, more than compensating the negative effects of greater numbers. If that is the case, the design used here would be inappropriate to make further tests.

Results of the interviews suggest, however, that crowding is an unattractive campground feature. Of the parties interviewed, over half mentioned crowding as undesirable. On these grounds, it is suggested that, other things being equal, less crowded campgrounds will be more-attractive than will be more-crowded campgrounds.

Summary

The this chapter, the results of a search for new hypotheses explaining variation in campground attractiveness are reported. Interviews with campers and inspection of a set of most-attractive campgrounds and a set of least-attractive campgrounds as measured by the average length-of-stay provided data. The results of the interviews and the on-site inspection suggest the following hypotheses.

Hypothesis A. Less crowded campgrounds are more attractive than are more crowded campgrounds.

Hypothesis B. Campgrounds built on rolling terrain are more attractive than campgrounds built on level terrain.

Hypothesis C. Campgrounds located in western Michigan are more-attractive than campgrounds located in eastern Michigan.

Hypothesis D. "Undeveloped" vistas associated with campgrounds are preferred to vistas including the permanent works of man.

Hypothesis E. Proximity to the recreation resource is as important as proximity to the user's home in determining campground attractiveness.

These hypotheses are suggested topics for further research. Acceptance or rejection depends upon the results of tests of

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[1] McGuire and Hodgson, "State Park Camper", p. 49.

independent data. Some, like Hypothesis C, may be conservatively stated. It is possible there exists a general preference for recreation in north and western Michigan. However, the data from which these untested hypotheses are generated do not justify, by themselves, greater generality.

CHAPTER VI

SUMMARY, EVALUATION, AND RECOMMENDATIONS

Summary

Results of Hypothesis Testing

It was hypothesized on the basis of evidence reported in the literature that the average length-of-stay at a given campground would be directly related to the number of activity opportunities offered to users of the campground, the number of services available to users of the campground, and the activity potential of recreational waters adjacent to the campground.

"Average length-of-stay" at a campground by camping parties registered there is proposed as a measure of campground attractiveness. "Activity opportunities" are such things as trails, libraries, playground equipment, and water-skiing. "Services" are such facilities as gas stations, laundries, and boat launch ramps. The "activity potential" of recreational water describes its ability to support numerous and varied recreational activities. The potential is measured by ranking some of the physical characteristics of a body of water according to the degree to which they restrict recreational use. The more a characteristic restricts use, the lower the score awarded that aspect of recreational water.

Hypotheses are tested using crossbreak tables and the Fisher exact test for significance. The significance level was set at 10 per cent because the primary purpose of the study was to identify possible new explanations of campground attractiveness for future testing with independent data and improved measures. It was felt the chance of being wrong approximately one time in ten by rejecting a true null hypothesis was acceptable under these conditions. In any case,

statistical testing is not strictly applicable under the design used here. Sampling was deliberately biased to include only the most-attractive and least-attractive of lower peninsula State Park campgrounds. Generalizations cannot be logically made to all State Parks, therefore. Readers of this report are advised that results are extremely tentative and require further careful testing before they are accepted. It is hoped these results and the conclusions reached will motivate and help direct further research in the area of campground attractiveness.

The relationship between average length-of-stay and the number of recreational opportunities a campground offered was not significant at the 10 per cent level. ($p=.11+$) However, there was a significant relationship ($p\leq.05$) between the availability of swimming at the campground and campground attractiveness. All most-attractive campgrounds offered swimming, but some campgrounds offering swimming were among the least-attractive. The opportunity for swimming cannot alone assure a campground's attractiveness.

There was evidence that average length-of-stay increased with the activity potential of adjacent recreational water. The relationship was significant at the 10 per cent level ($p\leq.005$). Half of the least-attractive campgrounds have no adjacent recreational water. One of the remaining three is riparian to a small stream. The remaining two are on a Great Lake, but have only swampy inland waters or none at all. Four of the six most-attractive campgrounds are riparian to both inland and Great Lakes. Other parameters of activity potential did not vary sufficiently between the two groups of campgrounds to distinguish one from the other.

There was no evidence to suggest that the availability of services in general is important in determining the average length-of-stay at a campground. However, relatively more-attractive campgrounds were significantly more likely to have a boat launch than were relatively less-attractive campgrounds. ($p\leq.05$)

Summary note

The literature and the results of the hypothesis testing both emphasize the likely importance of a large number of activity

opportunities appropriate to a wide range of ages and to both sexes. This is particularly true with regard to determining the quality of water for recreation.

Less crowded campgrounds may be more attractive than more crowded campgrounds. This relationship was suggested in the literature reviewed. However, a test of the hypothesis was not practical within the design used here. The data collected in interviews with campground users suggest that the hypothesis should be tested. Over one half of the camping parties mentioned crowding as undesirable.

Campgrounds built on rolling terrain may be more attractive than campgrounds built on level terrain. Only two of the six most-attractive campgrounds were located on level terrain while five of the six least-attractive campgrounds were on level terrain. There is enough evidence of the existence of such a relationship to warrant testing of the hypothesis in further studies.

There may be a preference for campgrounds located to the west in Michigan. Only one of the most-attractive campgrounds was located east of the center line of the lower peninsula, while only one of the least-attractive campgrounds was located west of the line. The average length-of-stay at eastern Michigan campgrounds in the lower peninsula was 2.43 days while in western Michigan the average length-of-stay was 2.79 days.

Campgrounds which offer views including little permanent evidence of the presence of man may be preferred to those which offer views of more developed areas. All the most-attractive campgrounds either look out over the expanse of Lake Michigan or are on inland lakes with very little shore line development. The least-attractive campgrounds generally look out upon permanent and visible works of man.

Proximity to the recreation resource may be as important as proximity to the user's home in determining campground attractiveness. The distribution of camper origins and of the sets of most-attractive and least-attractive campgrounds appear to be unrelated. Campers are, apparently, willing to travel to a resource and wish to camp near it. They do not necessarily use the nearest attractive resource. Campers from Grand Rapids go to Holland, Grand Haven, Silver Lake, Ludington, and Interlochen; they don't all go to Holland and Grand

Haven. It is suspected that distance within some limits is of very little importance in determining campground choice. In light of the predisposition to use distance in prediction models, empirical and theoretical work is strongly recommended to improve the understanding of the effects of distance on choice of campgrounds, all other things controlled.

These five hypotheses are untested. They are the results of a search for new explanations of variations in campground attractiveness. They may be the result of random error and therefore spurious. They should be tested with independent data. Until they are more completely studied, the suggested relationships should be used cautiously by planners and designers.

Summary of Methods

The study was designed primarily to discover as yet unidentified explanations of variation in campground attractiveness. The strategy was to maximize the variation in independent variables by maximizing the difference in the dependent variable. A set of most-attractive campgrounds was compared to a set of least-attractive campgrounds. Data was gathered through field inspection and from records of the management agency. Campground users were interviewed at half of the campgrounds inspected to provide clues as to what type of data would be most likely to explain differences in campground attractiveness. Data were analyzed by inspection, mapping, and crossbreaks.

In addition to the search for new variables, the data were used to test three hypotheses. Data to be used in these tests were collected at the same time and in the same manner as described above. Analysis was by crossbreak with the Fisher exact test used to determine the significance of observed relationships.

Evaluation

Length-of-Stay as Attractiveness

If one is attracted to something, one is motivated to embrace it, figuratively, to possess it in a physical or mental way. One tends to "approach" it rather than to "avoid" it. Thus, it would be expected that people would stay longer in places they like than in those they don't. Empirical evidence cited earlier, in fact, demonstrated this.

Average length-of-stay is a good measure of campground attractiveness. Even good measures have their weaknesses, however. For example, significant relationships have been observed between length-of-stay and the type of equipment a camper uses.[1] Parties with more mobile equipment tend to stay for shorter periods. Thus, campgrounds which have a relatively high proportion of their use by such campers compared to other campgrounds would score lower in attractiveness than they might have otherwise.

Out-of-state users don't stay as long in one place as do Michigan campers on the whole.[2] Campgrounds used by out-of-state campers in greater than usual proportion might appear less-attractive than they really are. Attractive campgrounds near camper origins may be used for weekend and over-night trips, making them appear less-attractive when average length-of-stay is the measure. On the other hand, observation at such campgrounds as Holland State Park suggest there may be a tendency to camp for longer periods of time and commute to work from the campground.

Finally, there may be a number of kinds of campgrounds in the Michigan State Park system. Using average length-of-stay assumes all campgrounds to be "destination" or "resort" type campgrounds to which the user goes and at which he plans to recreate. In fact, there may also be "motel" campgrounds used as overnight stops on the way to somewhere else. This latter type would expect a short length-of-stay and "attractiveness" would have to be measured by some other indicator. Some campgrounds such as South Higgins Lake State Park may serve as both. The result may be an average length-of-stay that underestimates the real attractiveness.

The degree to which average length-of-stay works as a means of ranking campground attractiveness depends upon the degree to which campers are aware of alternative places to camp. Campers who have not adequately sampled the system of campgrounds are uninformed judges and their decisions are suspect. In this time of rapid expansion of the

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[1] McGuire and Hodgson, "State Park", p. 42.

[2] Ibid.

number of campers, there must be a large portion of campers inexperienced and ignorant of the alternative combinations of resources among which they may choose.

Independent Variables

The measures of activity opportunity, activity potential of recreational waters, and services are too arbitrary and crude. They must remain so until further work is done to determine what it is people seek in these regards. There had not been sufficient careful observation reported to permit the development of scales beyond nominative measure. There is not even enough to make decisions about what variables to include in such scales.

The Population

Just as the study may suffer from inclusion of more than one type of campground, it also suffers from failure to include samples of each type of campground. State Park campgrounds in the lower peninsula were compared. It should be expected, however, that campers will choose among private, state forest, state parks, national forest, county, municipal, and township campgrounds. A better population would have been all "resort" campgrounds in lower Michigan had there been a way to identify them and had there been adequate data on length-of-stay. Under the circumstances, limiting the populations to Michigan State Park campgrounds in the lower peninsula was the best choice.

The Two-Part Study

The most important purpose of the study was to discover new explanations for variations in campground attractiveness. Hypothesis testing came second. As a result, compromises were made that significantly weakened the ability of the design to test hypotheses. On the other hand, time and effort spent on hypothesis testing might have improved data collection and analysis in the search for new explanations. Consequently, the tests of hypotheses are of relatively little value. Perhaps very little more would have been gained, however, if resources devoted to hypothesis testing had been applied here.

Recommendations for Further Research

The difficulties encountered in constructing measures for the independent variables revealed the paucity of information about campers' concepts of campground quality. What information there is frequently is not comparable from one investigation to another because of inconsistencies among definitions. Too often, research projects are one-time studies from which the researcher goes to other topics without building on his work toward a set of generalizations with wide validity.

It is suggested, therefore, that an organization such as the Recreation Research and Planning Unit undertake a continuing investigation of recreational quality. The aim should be to provide a continuity of definition and a sequencing of investigations that would result in a body of theory about recreational quality, its definition, parameters, and measurement.

Such a research program would naturally require some time before important results are obtained. The field lacks even a body of systematic description from which to theorize. The taxonomy of recreation is primitive; the terminology is not operational and is vague in empirical reference. The contribution of philosophy, art, psychology, and other social sciences have yet to be mustered in a concerted effort. The task of researching recreation quality must begin at the beginning and proceed patiently with the systematic development of the field. At the same time, the need for theory and information is urgent. Planners and managers want answers. Our projecting models need inputs.

The first step in this proposed effort must be the definition of the field and the survey and inventory of the current state of knowledge, the identification of similar efforts, and the identification of priorities for research. Philosophy and art can provide theory, psychology and other social sciences, theory and observation.

One of the first tasks may be the unexciting and often maligned empiricism. Data must be gathered and organized. There are many areas where we simply have not had the experience to theorize from introspection. We need systematic experience to guide the development of our hypotheses. Data may be gathered in the field through careful

observation of recreational microcosa such as single campgrounds or day-use areas or through surveys of large populations. It may be gathered in the laboratory with stringent artificial controls.

As data and experience suggest them, relationships may be proposed and tested with surveys or laboratory, and field experiments. Models of real world systems may be proposed. These will suggest areas where testing and data collection should be focused. The sensitivity of the variable can serve as a priority designation to sequence research. Ultimately, perhaps a body of theory with predictive and explanatory power will evolve to which planners and managers can turn for advice.

Such a body of theory is desirable because it permits economy and efficiency in resource use, because it is aesthetic to the scientist, and because it reduces uncertainty for managers and planners. The probabilities of ever achieving such a body of theory would seem remote if research in this area continues its variable and haphazard path. Further research in this area needs to be coordinated and systematic, the theme of an institution such as the Recreation Research and Planning Unit that transcends the lives and professional interests of individual scientists.

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APPENDICES

APPENDIX A

PARK INVENTORY

Park Name_____ Age_____ Last Renovation_____

Improvements:

Number of sites_____
- Lotted_____
- Unlotted_____
- Trailor_____
- Tent_____

Toilets_____
- Pit or Box____#____
- Flush_____#____
- Showers_____#____
- Sanitary Dump_____

Camp stove_____miles to____
Library_____miles to____
Child care service_____miles to____
Life guard_____
Restaurant_____miles to____
Coffee shop_____miles to____
Interpretive service_____
Trails_____miles of____
Self-guiding_____miles of____
Pavilion_____
Launch ramp_____launching rate_____

Comments:

Boat rental____miles to_____
Gas station____miles to_____
Recreation equipment, rent or loan_____
Utility field_____
Laundry_____miles to_____

Campground:

Rate of occupancy____%

Jan.__%	Apr.__%	July__%	Oct.__%
Feb.__%	May__%	Aug.__%	Nov.__%
Mar.__%	June__%	Sep.__%	Dec.__%

Campsite drainage_____
Soil type_____
Aspect_____
Vistas_____
Vegetation type_____
density 0 1 2 3 4 5 6 7 8 9 10
Shade dense ___ ___ ___ none
Wind protection_____
Tables at site_____
Fire facilities_____
Water outlets____flavor____odor____number____distribution____
Distance to beach_____access_____
Screening_____

Activities:

Horseshoes
Tennis
Shuffleboard
Volley ball
Baseball
Swimming
Fishing
Hunting

Children's play area(facilities)_____
_____
_____
_____

Movies, commercial_____miles to_____how often_____
Movies, camp_____miles to_____how often_____
Swimming pool_____wading pool_____
Life guard_____roped area_____
Dock_____rafts_____bath house_____beach grooming_____
Waterskiing_____
Other_____

Recreational Water:
River_____inland lake_____Great Lake_____
Dry beach_____size_____composition_____
area_____
Wet beach_____size_____composition_____
area_____
Description
clarity_____odor_____spread of flow_____
pollution_____area_____obstructions_____

Park in General:
Topography_____
Vistas_____
Special attractions_____
Area_____
Picnic area_____
no. of sites_____
vegetation_____
cooking facilities_____
tables_____
air quality_____
noise_____

Setting:
Urban land use within five mile circle_____%_____
Distance to major highway_____travel on highway_____
Water area within twenty-five mile circle_____
Public land area within twenty-five mile circle_____
Topography of twenty-five mile circle_____
Forest types_____
Forested land within twenty-five mile circle_____

Comments:

APPENDIX B

STATE PARK ATTRACTIVE FEATURES SURVEY

1. How many years have you been camping?
2. How often do you camp in an average year?
3. Have you always used a _____(type of equipment)?
   A. What other equipment?
   B. Which do you prefer?
4. Have you ever done any remote camping where you had to backpack or use horses or canoes?
5. Do you prefer modern or rustic camps?
   A. How important are showers? Flush toilets?
6. Do you have a favorite campground?
7. What kinds of things do you look for in a camp?
8. Have you camped at any of these parks?
   A.

Interlochen	Cheboygan	Grand Haven
Ludington	Gladwin	Holland
Otsego Lake	Hartwick Pines	Metamora-Hadley
Silver Lake	White Cloud	Yankee Springs
Bay City	Island Lake	Tawas Point

   B. Which did you like best? Least? Why?
9. Have you camped in state parks in other states? National forests? National parks? County, municipal, or township parks?
10. Have you camped in Michigan State Parks not on this list? Which?
11. Have you camped here before? How many times?
12. Do you usually camp in state parks or some other kind?
13. Do you like this park in general?
   A. What do you like about it? What don't you like?
14. Would you stay here longer if you had the time?
15. Do you think you'll come back to this park?
16. Will you stay longer next time? How long do you usually stay at a camp?

Now, I have a few questions about your background.

1. Where do you live now, an urban, suburban, or rural area?
2. How long have you lived there? Where did you live before, an urban, suburban, or rural area?
3. Did you grow up in an urban, suburban, or rural area?
4. Did your parents camp?
5. How did you become interested in camping and decide to try it?
6. What sort of work do you do?
7. Have you always done pretty much the same kind of work? If not, what did you do before?
8. Do you have any hobbies?
9. What is your favorite participant sport?
10. What is your favorite spectator sport?
11. Would you rather be a spectator or a participant, in general?
12. Do you have children? Boys or girls? What are their ages?

That concludes my questions. I'd like to hear anything you'd like to comment on about what you like or dislike in camping in general and on Michigan State Parks in particular.