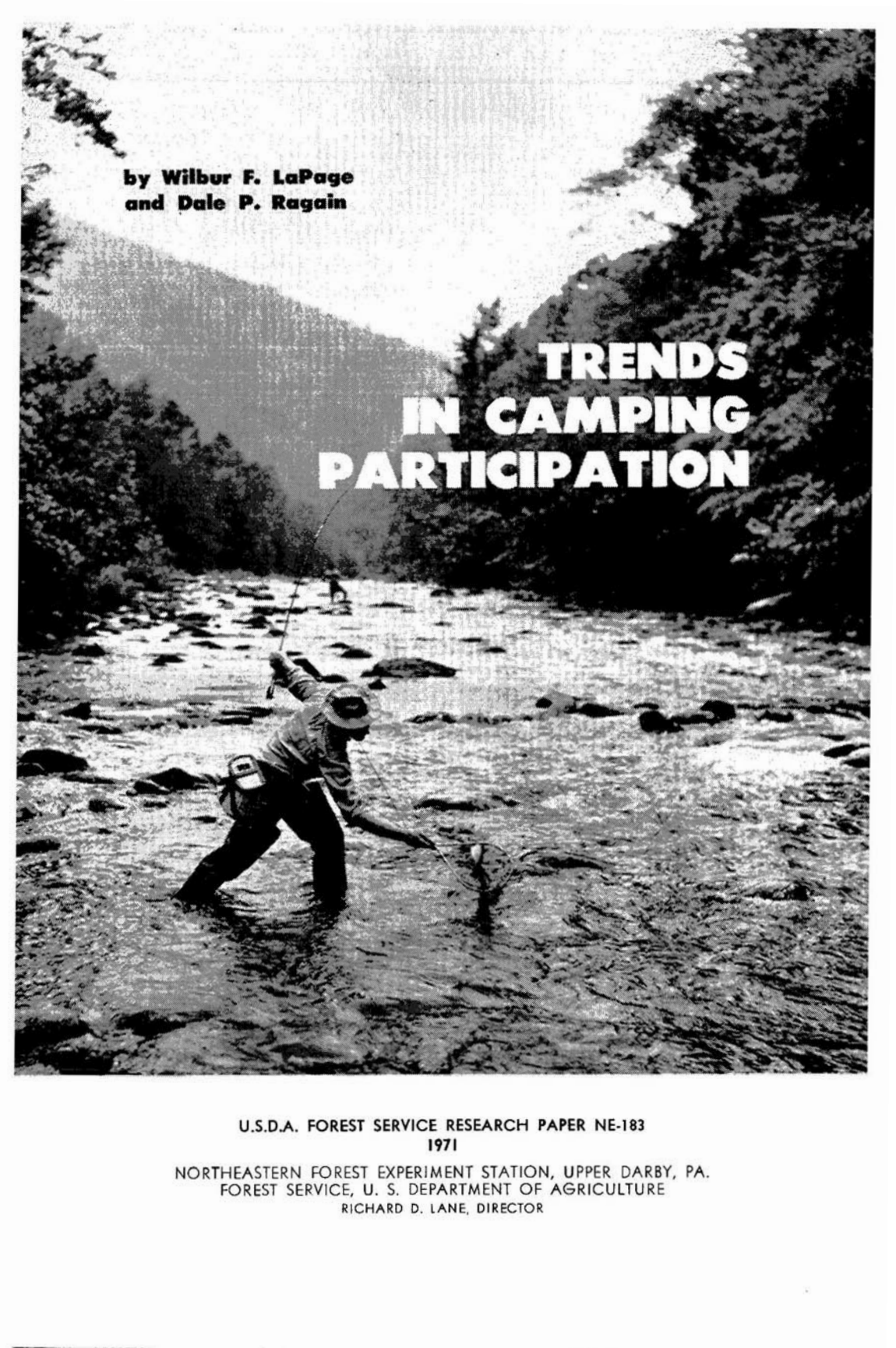




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TRENDS IN CAMPING PARTICIPATION

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MORE CAMPERS- LESS CAMPING?

STUDIES OF outdoor-recreation demand invariably conclude that more people are recreating more often than ever before. Certainly the number of people on trails, in campgrounds, and on ski slopes is increasing. But the companion assertion that individuals are spending more time at outdoor recreation is questionable. After studying the camping trends of a panel of 565 campers for 5 years, we found that one-third of the campers reported a marked decline in their camping and other outdoor recreational activities. Only one-sixth of the panel reported increased camping.

This trend may be a concomitant of more people using outdoor resources, dwindling available supply, and reduced environmental attractiveness. If this is so, the impact upon resources and resource managers may be far greater than the simple increase in numbers of participants suggests.

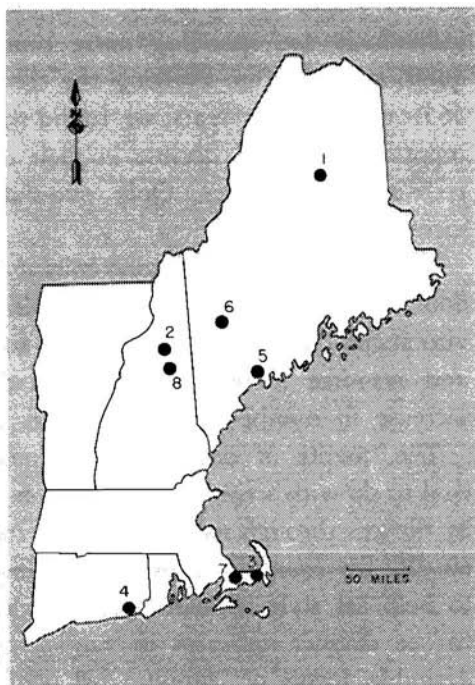
The quality of outdoor recreational experiences has a great deal to do with styles of participation. Accepted styles are learned by novices through association with more skilled campers, skiers, etc. If, for example, experienced campers are not highly visible to help set style standards for new campers, we should expect to see distinct increases in vandalism, littering, and other undesirable forms of camping behavior.

THE STUDY

Several years ago the Northeastern Forest Experiment Station began a long-term study of per-capita camping participation. The objectives of the research were to identify campers with increasing or decreasing camping participation and to determine the causes of those trends.

The New England camper panel was composed of a group of 864 campers interviewed in 1964 and 1965 at 8 major public and private campgrounds throughout New England (fig. 1). The campgrounds were selected to represent the range of camping opportunities available in New England from primitive to highly developed, the range of physical features (coastal, mountains, lakes), and the range of ownership (state, federal, commercial). Occupied campsites within campgrounds and individual adult campers at each site were selected by using specially prepared random number tables. Each January for the past 5 years, the members of this panel received a brief questionnaire

Figure 1.—The public campgrounds sampled in 1964 were: (1) Baxter State Park, Maine; (2) Dolly Copp Campground, White Mountain National Forest, N. H.; (3) Nickerson State Park, Mass.; and (4) Rocky Neck State Park, Conn. The commercial campgrounds samples in 1965 were: (5) Hermit Island Campground, Bath, Me.; (6) Lakeside Pines Campground, North Bridgton, Me.; (7) Sweetwater Forest Campground, Brewster, Mas.; and (8) Eastern Slope Campground, North Conway, N. H.



concerning their past year's camping activity and other family changes that might influence camping participation such as changes in leisure interests, residence, family size, income, and expenditures. The results of the first 4 years of trend data are reported in this paper.

Throughout the study, panel response was excellent, never falling below 75 percent of the original sample. However, usable responses, those containing a full 4 years of data, were returned by slightly more than two-thirds of the panel members.

To determine whether selective drop-out had occurred during the study period, several comparisons were made between the composition of the original group of 864 campers and the final group of 565 campers who provided data for 4 consecutive years. Chi-square tests at the 1-percent significance level detected no differences in the composition of the two groups in terms of their camping behavior, camping attitudes, or demographic characteristics as measured at the beginning of this study. Behavioral items compared included median days of annual camping, the distribution of years of past camping experience, and the incidence of membership in camping clubs. The attitudinal check was made on the basis of percent agreement with a social definition of camping. And demographic checks were made on the basis of annual income distributions, age distributions, and the distribution of respondents from eight campgrounds where initial contacts were made (appendix, table 12).

FINDINGS

We found a decreasing trend in average annual recreational participation in this panel of family campers. The trend is surprising in view of the common criticism that panel studies tend to sensitize their subjects. That is, we expected that those campers having increasing participation might tend to dominate the panel over time, while those with declining camping interests would be increasingly likely to drop out of the study.

To evaluate individual participation trends it is necessary to arrive at a reasonable definition of "increasing" and "decreasing" participation. For example, is a 4-year participation sequence of

14, 21, 17, and 18 days an increasing, decreasing, or constant trend? We converted each individual participation sequence into a set of running averages and then arbitrarily set a ± 20 -percent limit between the first and last running average figures as being indicative of a trend. Using this relatively strict definition, we classified the above example as constant participation; while a real increase has occurred, the running average procedure irons out the trend to less than a 20-percent change over the 4-year period.

On this basis, we conclude that a net decrease in participation has actually occurred because, of the 565 campers, those that had decreasing trends were almost double the number that had increasing trends:

<i>Trend</i>	<i>Percent of panel</i>
Increasing	17
Constant	50
Decreasing	33

A relatively small group of increasingly active campers was responsible for maintaining the total panel's continuity of participation (table 1).

The panel camped about 12,000 days annually and averaged about 21 days per family. With at least 12 weekends and 2 to 4 weeks of paid vacation available to most campers, an annual

Table 1.—Mean annual camping days, and standard errors over a 4-year period, spent by campers with increasing, constant, and decreasing participation trends

Trend group and group size	Average days camped			
	Year one ¹	Year two	Year three	Year four
Increasing (96)	21 $\pm$ 1.7	21 $\pm$ 1.8	35 $\pm$ 2.5	41 $\pm$ 2.8
Constant (284)	24 $\pm$.9	25 $\pm$ 1.0	24 $\pm$.9	22 $\pm$ 1.0
Decreasing (185)	19 $\pm$ 1.0	15 $\pm$ 1.1	7 $\pm$.6	5 $\pm$.5
Total (565)	22 $\pm$.6	21 $\pm$.8	20 $\pm$.8	21 $\pm$.8

¹Because it took 2 years to assemble the complete panel, campgrounds 1 through 4 having been surveyed in 1964, and campgrounds 5 through 8 in 1965, it also takes 2 years for the total panel to complete 1 year of the trend. Year one reflects participation in 1964 for campers surveyed in that year plus participation in 1965 for campers initially contacted in that year. Similarly, year four represents participation in 1967 and 1968.

frequency of 21 days is certainly not crowding the camper's leisure time. To explain this lack of growth in average annual participation, we have examined the panel data in relation to several relevant theories about leisure behavior, including (1) life cycle and changing interests, (2) opportunity limitations, and (3) habit patterns and styles of participation.

Life Cycle Effects on Participation

The idea of a life-cycle influence upon leisure behavior suggests that people can be expected to display changing interests during different periods of their lives. For example, we might expect to find a high frequency of camping and related outdoor activities among young families. However, as the younger family members mature and develop diverse interests and as the family gradually disintegrates, the frequency of camping participation may decline. Also, we might expect to find a resurgence of camping participation beginning when children leave the home and continuing through retirement as parents have more time available to pursue their own leisure interests. Also, concurrent with these peaks and dips in family camping, we might expect to find compensating changes in other leisure activities and perhaps even a continuing expenditure for camping equipment as campers search for alternative ways of expressing interest in an activity that they no longer have time to pursue.

The age structure of the New England camper panel appeared to be normally distributed. About one-fourth of the parents were under the age of 35 when initially surveyed, nearly one-half were between 35 and 45, and another one-fourth were over 45. About one-third of each of these three age groups reported declining camping participation; only the over-45 age group showed a disproportionate number of campers having increasing participation (table 2). And we found a relatively uniform change in the average amount of camping participation by each of these 3 age groups (table 3).

Another way of looking at the concept of life-cycle is to examine participation frequencies by years of camping experience.

Table 2.—Percentage of increasing, constant, and decreasing camping participation among three age groupings in the New England camper panel

Trend	Age group		
	Under 35 (n=146)	35 to 45 (n=280)	Over 45 (n=139)
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Increasing	17±3.0 ¹	14±2.0	24±3.5
Constant	50±4.0	52±2.9	46±4.1
Decreasing	33±3.8	34±2.7	30±3.8

¹The standard errors for percentages in this table are computed from the formula:

$$SE_p = \sqrt{\frac{p(1-p)}{n}}$$

(Ref. C. A. Moser. SURVEY METHODS AND SOCIAL INVESTIGATION, p. 71. Heinemann Press, 1958.)

Table 3.—Percentage of total annual camping by three age-groups of campers, and mean days camped by each age group

Age group	Year one	Year two	Year three	Year four
Under 35				
Total camping (Pct.)	24±1.7 ¹	25±1.7	23±1.7	24±1.7
Average days	20±1.2	20±1.5	18±1.4	18±1.7
35 to 45				
Total camping (Pct.)	46±2.0	47±2.0	46±2.2	46±2.0
Average days	21±.8	20±.8	19±1.0	18±1.0
Over 45				
Total camping (Pct.)	30±1.9	28±1.8	31±1.8	30±1.8
Average days	26±1.5	24±1.5	25±1.8	24±1.8

¹Refer to table 2 for explanation of standard error computation.

For example, are beginning campers, of any age group, increasing in their average annual participation while established campers, again of any age group, are declining? If so, this might tend to indicate that the content and appeal of camping itself regulates the stages of a camping life cycle rather than camper age and those attributes commonly associated with age such as family responsibility and changing resources of time and money.

To test this idea, we stratified the camper panel according to levels of camping experience at the start of the study as: *beginners*, having up to 2 years of camping experience (134 campers); *intermediates*, having 3 to 5 years of experience (174 campers); and *established campers*, having 6 or more years of experience (254 campers).

Four years later, the proportions of each of these three groups having declining camping participation was significantly greater only among the beginning campers:

<i>Experience class 4 years ago</i>	<i>Percent having declining camping</i>
Beginning campers	40
Intermediate campers	29
Established campers	32

The average number of days camped in each of these life-cycle stages, while different within each stage, did not significantly change over the past 4 years.

Apparently the stages of a life cycle, whether considered from the standpoint of camper age or relative camping experience, have little relationship to the volume, trend, or style of camping participation. Younger campers (under 35) were less likely to have been camping in a recreational vehicle during the year of their interview; but they purchased proportionately more recreational vehicles during the 4-year study period (table 4). Beginning

Table 4.—Percent of campers initially using camping vehicles and subsequently purchasing camping vehicles, according to camper age groups and experience classes

Life-cycle category	Initially used recreational vehicle	Purchased recreational vehicle
	<i>Pct.</i>	<i>Pct.</i>
<i>Age class:</i>		
Under 35	40	41
35 to 45	47	35
Over 45	51	36
<i>Experience class:</i>		
Beginners	51	46
Intermediates	40	32
Established	49	36

Table 5.—Average number of outdoor recreational events and average number of recreational activities¹ participated in each year, other than camping, by panel members with increasing, constant, and decreasing camping trends

Camping participation category	Year							
	One		Two		Three		Four	
	Events	Activities	Events	Activities	Events	Activities	Events	Activities
	No.	No.	No.	No.	No.	No.	No.	No.
Increasing	40	3	43	4	53	4	49	4
Constant	44	4	47	4	46	4	41	4
Decreasing	44	4	40	4	35	4	36	3

¹Made up predominantly of swimming, hiking, picnicking, fishing, boating, hunting, and skiing.

campers had proportionately more vehicles initially and ultimately purchased more as well.

Campers in the past may have made a gradual transition from tents to recreational vehicles, but it is apparent that many of today's beginning campers start out with a recreational vehicle and buy bigger and better ones without ever camping in a tent.

The concept of life cycle implies a shifting of interests from camping toward some other activity. While our panel data does not include a complete inventory of leisure-time use, we were able to determine that, in the three experience groups, a reduction in camping was not compensated by an increase in some other outdoor recreation activity. In fact, increases and decreases in camping were commonly accompanied by increases or decreases in the camper's overall level of outdoor recreational involvement (table 5). Further, we found that those with increasing camping were more likely to hold onto all of their old activities and add new ones; whereas those with decreasing camping were more likely to drop old interests and not add new ones.

Opportunity Effects on Participation

The opportunity for an individual to engage in outdoor recreation can be limited in a variety of ways; most obviously by time and money. Available time and money are both extremely difficult to measure and are well beyond the scope of this study. However,

we can look at several different indices of these two limiting factors such as income, family size, camping equipment, and mobility.

Residential mobility can be assumed to have at least three important influences upon the frequency of family camping: (1) the move often places the family in an area where they are less familiar with the camping opportunities around them; (2) family moves are often made in the summer to minimize conflicts with school and work, which maximizes conflicts for the use of leisure time; and (3) recreational opportunities are not evenly distributed across the country.

During the study, 148 of the 565 panel members moved at least once, and 7 percent moved more than once (fig. 2). Of those that moved, 41 percent reported declining camping, as opposed to 30 percent of those campers who did not move during the 4-year period (table 6).

The decline in camping among those who moved during the

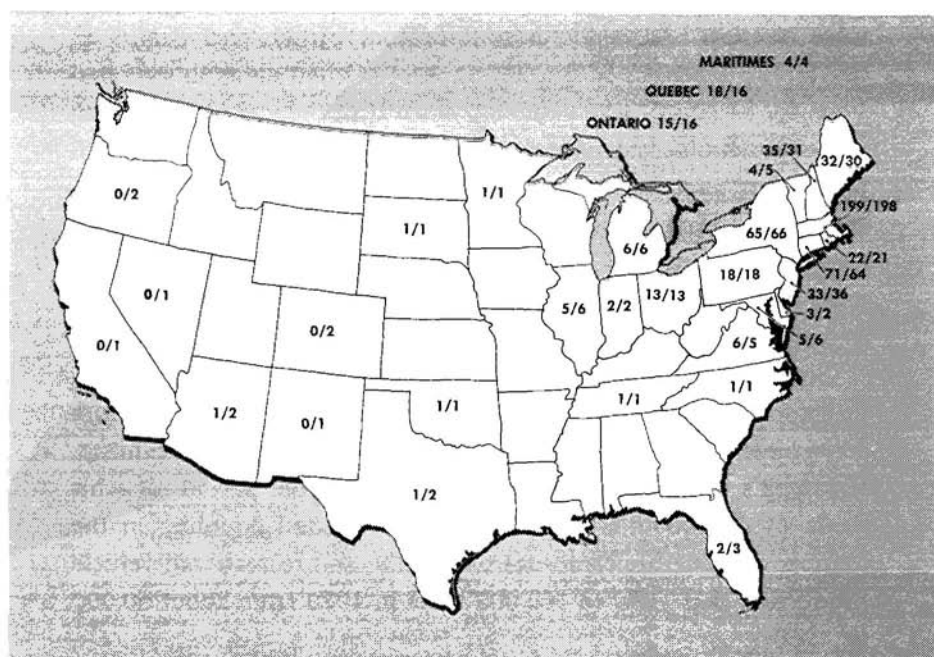


Figure 2.—Initial/final distribution of the New England camper panel.

Table 6.—Percent of panel in three camping-trend groups
by residential mobility classes

Mobility	Camping trend		
	Increasing	Constant	Decreasing
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Mobile (n=148) ¹	15±3.4 ²	44±4.6	41±4.5
Stable (n=417)	18±3.4	52±4.6	30±4.5

¹Residentially mobile campers have moved at least once during the 4-year period.

²Refer to table 2 for explanation of standard error computation.

study is probably temporary, because camping can provide an element of stability for those families that are both residentially and socially mobile.

Many panel members offered explanations when their camping frequency was temporarily reduced. Of these, only 10 specifically mentioned moving or a change of jobs as having influenced their camping. By far the most frequently mentioned limiting factors were sickness, accidents, hospitalization, births, and deaths in the family (mentioned by 60 campers). Other common explanations for a reduction in camping were: dissatisfaction with camping experiences, loss of interest, or a change of interest—such as building a second home—(mentioned by 22 campers); children occupied during the summer, and children losing interest in camping (mentioned by 12 campers); and increased cost or reduced available income to spend on camping (mentioned by 9 campers).

Given equivalent resources of time and money, the opportunity to camp distills to a question of relative convenience. The more convenient camping is, the more apparent are its opportunities. Camping's increasing convenience during the period of this study (1964-1969) is reflected by an estimated doubling in the number of available campsites nationally, and recreational vehicle production that grew to 500,000 units in 1970 from about 60,000 in 1960.

The convenience of hitching up to a fully equipped recreational vehicle, as opposed to hours of packing and unpacking

tents and other bulky equipment, should produce more nights of camping for a family. Among panel members who were using tents 5 years ago, 35 percent reported declining participation rates, as opposed to 29 percent of those who were already using some type of recreational vehicle. However, the effect of recreational vehicle convenience on camping frequency is most apparent when those campers who made the transition from tents to vehicles (17 percent) are compared with those who only used tents (37 percent) or those who consistently used vehicles (41 percent) for the entire 4-year period (table 7). The average annual days camped by these three groups were:

	<i>Year one</i>	<i>Year two</i>	<i>Year three</i>	<i>Year four</i>
From tents to vehicles	23	26	25	28
Used tents every year	16	14	13	11
Used vehicles every year	27	25	24	24

Of course, panel members continued to purchase tents and trailers throughout the study; and 55 percent of all the recreational vehicles purchased were bought by campers who were already vehicle campers. Almost one-half of the campers who had declining participation in camping made at least one major purchase of equipment during the 4-year period. And contrary to our finding that the declining campers were also declining in their participation in other outdoor activities, we found that purchases of non-camping outdoor recreation equipment were numerous and increased slightly (table 8). This seems to suggest that the person whose total outdoor recreation participation is

Table 7.—Percent of campers with increasing and decreasing camping trends, according to types of camping equipment in use

Equipment used over 4 years:	Camping trend		
	Increasing		Decreasing
	<i>No.</i>	<i>Pct.</i>	<i>Pct.</i>
Tents only	207	8	45
Recreational vehicles only	233	18	30
Switched from tents to vehicles	95	33	15

Table 8.—Number of campers making annual equipment purchases, by camping trend groups, and according to type of outdoor recreational equipment purchased

Trend	Year one	Year two	Year three	Year four
	<i>No.</i>	<i>No.</i>	<i>No.</i>	<i>No.</i>
Increasing camping:				
Camping equipment only	23	20	21	17
Camping and other	12	13	14	12
Other equipment only	16	20	20	22
Constant camping level:				
Camping equipment only	49	46	27	30
Camping and other	47	29	22	27
Other equipment only	69	82	83	78
Decreasing camping:				
Camping equipment only	35	17	10	4
Camping and other	21	11	3	5
Other equipment only	60	60	68	68

declining nevertheless maintains a high level of outdoor interest and may subsequently increase his actual participation when he is able to.

The major items of recreational equipment purchased by the panel, and their frequency of purchase for the 4 years were:

<i>Item</i>	<i>Frequency</i>
Fishing and hunting equipment	498
Motor homes, pick-up campers, tent trailers, and trailers	282
Skis	280
Tents	226
Boats	163
Sleeping bags, lanterns, etc.	88
Outboard motors	79
Snow vehicles	12

By comparison, the panel also purchased 863 motor vehicles over the 4 years. And only 83 of the 565 panel members failed to buy at least one automobile during this period.

The purchase of a recreational vehicle and both the trend and volume of camping participation are highly correlated (.01 level). Among the 209 panel members purchasing at least one recreation vehicle, 29 percent reported increasing trends and 16 percent decreasing trends in their camping. Of the 356 panel-

ists who did not purchase a recreation vehicle, 10 percent increased and 42 percent decreased their participation. The average number of days camped for these two groups were:

	<i>Year one</i>	<i>Year two</i>	<i>Year three</i>	<i>Year four</i>
Recreation vehicle purchasers	25±1.1	26±1.2	27±1.4	29±1.6
Remainder of the panel	20±.7	18±.8	16±.8	14±.9

Several anticipated limitations did not appear. For example, no significant correlations were found between camping trend or camping volume and any of the following: family size, change in family size, income, and change in income (table 9).

Table 9.—Percent of families with increasing or decreasing camping trends, according to several categories of family size and income

Category and number	Camping trend		
		Increasing	Decreasing
	<i>No.</i>	<i>Pct.</i>	<i>Pct.</i>
Small families ¹	276	18	30
Large families ¹	279	17	35
Growing families	78	12	42
Constant families	410	18	30
Shrinking families	76	16	37
Average income ²	319	19	30
High income ²	241	15	35
Constant income ³	204	17	32
Slow income gain ³	199	17	32
Rapid income gain ³	129	16	35

¹Small families have 2 or less children; large have over 2.

²Average is \$150 or less gross income per week in 1964-65; high is over \$150 per week.

³Constant means less than a \$1,000 net increase over the 4-year period; slow indicates a \$1,000 to \$2,000 net increase; and rapid means a periodic increase of more than \$2,000.

Effects of Habit and Style on Participation

Earlier studies have reported the influence of various habit patterns on camping participation. A study of campers in New Hampshire (1) described a "repeat-visit cycle" in which the incidence of past visits to a campground results in longer visits

and more definite plans to return for a future visit. Another New Hampshire study (2) identified campers whose loyalty for specific campgrounds sharply reduces their annual volume of camping. Still another recent study (3) identified a "heavy-half" of the camping market, or that half of the active campers who camp more than the median number of days, and who are responsible for three-fourths or more of the total annual reported camping activity. These heavy campers consistently camped more and increased their annual volume of camping while the light half camped less and revealed a declining trend as well.

The New England camper panel provides an opportunity to study each of these habit patterns in detail and over time. We found a consistency among campers in either the light or heavy half of the market. One group comprising 27 percent of the camper panel consistently camped more than the median number of days, year after year. These campers accounted for 51 percent of all reported camping activity over the 4-year period. Another group comprising 26 percent of the panel was consistently in the light half of the panel and accounted for only 9 percent of total camping days. The remaining 47 percent shifted back and forth between the halves, camping more than the median in some years and less in others; and this group accounted for 40 percent of the total camping days.

Table 10.—Average annual participation among campers who consistently camped more and less than the annual median number of camping days or whose participation was erratic

Category	Year			
	One	Two	Three	Four
	Days	Days	Days	Days
Consistently heavy campers	36±1.4 ¹	40±1.4	40±1.5	41±1.8
Consistently light campers	11± .3	7± .5	5± .4	5± .4
Erratic camping participation	20± .7	18± .7	17± .8	18± .8

¹Refer to table 2 for explanation of standard error computation.

A camper's past volume of camping has a highly significant (.005 level) correlation with his camping trend (Appendix, table 13). Campers in the heavy-half of the panel tend to increase their levels of participation (table 10). Only 6 percent of these campers reported declining participation. Among consistently light campers, 57 percent had declining rates of participation.

There are no significant differences in residential mobility or age structure of these three groups; although consistently heavy campers tend to be slightly older than either of the other two groups.

These participation trends among heavy and light campers have the effect of further obscuring any life-cycle influence that may govern camping participation. That is, if a life-cycle influence was operating, we should expect to find light campers with increasing participation trends, and heavy campers with either constant or decreasing trends.

Although we have no strict measures of the panel members' preferences for commercially developed and publicly developed campgrounds, about one-half of the panel was recruited at each type of development. Past research indicates that some important differences exist in camper preferences, equipment, and participation patterns between visitors to these two types of campgrounds (1, 2). Consequently, we compared the camping trends of panel members according to the type of campground — public or private — where the initial contact was made. The proportion of declining campers was found by chi-square tests to be significantly higher (5-percent level) at publicly developed campgrounds (table 11).

During the initial field interview, each camper having at least 1 year of camping experience was asked to characterize his camping style as either: (1) generally preferring to restrict camping visits to two or three carefully selected campgrounds (restrictive); or (2) generally preferring to explore new campgrounds on each trip (exploratory). Restrictive and exploratory campers were evenly represented at the public campgrounds. However, the restrictive style was more than twice as common at commercial campgrounds (table 11). This tendency toward

Table 11.—Percent of panel members contacted at public and commercial campgrounds with increasing, constant, and decreasing camping trends, according to two different styles of camping participation

Category	Camping trend		
	Increasing	Constant	Decreasing
	<i>Pct.</i>	<i>Pct.</i>	<i>Pct.</i>
Contacted at public campgrounds (n=280)	18±2.3 ¹	44±2.9	38±2.9
Restrictive style of camping (n=116)	23±3.8	47±4.5	30±4.2
Exploratory style of camping (n=115)	12±3.0	43±4.5	45±4.5
Contacted at commercial campgrounds (n=285)	16±2.1	57±2.9	27±2.6
Restrictive style of camping (n=186)	17±2.7	56±3.5	28±3.2
Exploratory style of camping (n=81)	16±4.0	61±5.3	23±4.6

¹Refer to table 2 for explanation of standard error computation.

limiting visits to carefully selected private campgrounds seems logical in view of the greater range in quality and services among commercial developments than among the public campground developments.

The significantly higher proportion of declining campers found at public campgrounds is heavily concentrated among those campers having an exploratory type of camping participation. The heavy decline in camping by this group may be a reflection of the increasingly crowded conditions at most public campgrounds and the inability to be assured of finding available space.

Another way of indexing a camper's style of camping is by examining his attitudes about the activity. During the initial interview, each camper was asked for his agreement or disagreement with several different definitions of camping. One of these definitions stressed the physical aspects of camping in the classical sense of a return to nature; while another definition depicted camping in a more contemporary role as a social experience. From these two definitions, four impressions of camping emerge: (1) camping is a social experience, not a physical one, 10 percent;

(2) camping is a physical experience, and not social, 27 percent; (3) camping is neither physical nor social, 28 percent; and (4) camping is both a social and physical experience, 34 percent. The trends for these four groups are:

	<i>Percent declining campers</i>	<i>Percent increasing campers</i>
Social (n=53)	21±5.5	19±5.3
Physical (n=142)	35±3.9	20±3.3
Neither (n=147)	37±3.9	12±2.6
Both (n=177)	29±3.3	19±2.9

Another way of indexing camper attitudes about camping requires that the camper express a preference for a camping vacation over several other attractive alternatives. During the initial interview, each camper was asked to rate two different styles of camping — remote wilderness and developed auto-access camping — against five other non-camping types of vacations. Out of the 565 panel members, only 97 selected wilderness camping as either their first or second choice for a vacation. During the 4-year period, these wilderness-oriented campers had significantly different camping trends from the rest of the panel. Forty-three percent had declining participation and only 8 percent increased their camping, as compared to 31 percent and 19 percent, respectively, in the remainder of the panel. The wilderness-oriented campers were also more likely to be tent campers (62 percent v. 52 percent and more likely to have been camping for at least 8 years (43 percent v. 31 percent) before joining the panel.

In summary, factors of habit and style of camping co-vary more with camping trends than do factors of life-cycle and opportunity. Commonly associated with a declining camping trend are factors of: (1) a low past volume of camping, (2) an exploratory style of camping combined with an apparent preference for non-commercial campgrounds, and (3) a traditional or wilderness orientation toward camping.

CONCLUSION

Our major conclusion, that per capita outdoor recreation participation of the camper panel declined, hinges on two unanswered questions. First, after only 4 years of study, have we detected real trends; and second, if the trends are real, can we account for the inadequate explanations provided by life-cycle effects, changing interests, opportunity limitations, and habit patterns? Both questions rate a qualified yes.

The need to convert annual participation figures to running averages is some indication of the difficulty in discerning clear trends in the data. In fact, this procedure forces a trend out of the data, and some such procedure would also be necessary in a longer study in order to iron out the peaks and dips of short-term changes in participation. However, this procedure forces an artificial trend out of the data only to the extent that the threshold limits chosen are reasonable. If the determinants of a trend are set at ± 10 percent, ± 20 percent, and ± 30 percent, the same ratio of two decreasing campers for each increasing camper is found. If the determinant of a trend is set at a change of ± 5 percent, constant participation is practically eliminated. With the threshold limits of ± 20 percent we chose for this study, one-half of the panel is classed as having "constant participation". Certainly, with limits set as liberally as this, we are measuring real trends. Of course, this says nothing about their reversibility.

The failure of the study to explain these trends must be attributed to a variety of causes. First, the small size of the final panel, particularly the size of the increasing participation subset, makes multi-variate analysis difficult. Human behavior is rarely explainable in terms of bi-variate relationships. Second, the validity of the indices chosen as representative of life-cycle, opportunity, and habit is generally untested. Other indices of these same effects might have proven to be much more significant covariates of the trends. Finally, a large portion of the trend behavior may be due to other unmeasured variables.

This later possibility deserves special attention. Unfortunately, panel members were never specifically asked to explain their changes in annual participation. This oversight effectively elimi-

nates any chance to consider the effects of changes in the camping experience itself, relative to trends in campground conditions and campground management.

We can consider that any given camper's trend in camping is a product of two broad classes of variables — individual and environmental. This study concentrated only on those individual constraints that make camping a reasonable alternative use of leisure time. But the basic attractiveness of camping is environmental, and people will make time available to camp if the camping environment is sufficiently attractive.

Because we lack a clear expression of the effect of environmental change, we are forced to return to the basic finding that twice as many campers had declining participation trends as had increasing trends, and to speculate about environmental causes. The relative high rate of decreasing participation among exploratory style campers contacted at public campgrounds seems consistent with the increasingly heavy use of these parks that has produced crowding and other forms of environmental deterioration. The direct exposure to these conditions as well as the indirect exposure through the media publicizing these conditions may be responsible for a part of the reduction in per-capita participation and may be causing a shift from public parks to commercial campgrounds.

Long-term panel studies of outdoor recreational behavior are expensive and difficult to maintain. This study has shown that the interest and cooperation of the camping public makes such studies feasible. More — and more penetrating — panel research can provide basic outdoor recreation planning information about the ways in which people make substitutions between different activities and events. At a minimum, this study seriously challenges the planner's common assumption that increasing per-capita participation is a prime cause of rising demands for outdoor recreation facilities and services.

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APPENDIX

Table 12.—A comparison of selected characteristics of 864 campers initially contacted with 565 panel members who eventually submitted 4 full years of outdoor recreation participation data

Item	Initial survey	Final panel
	<i>Pct.</i>	<i>Pct.</i>
Source of initial camper contacts		
Campground:		
1	12	13
2	12	13
3	12	12
4	12	11
Total public campgrounds	48	49
5	13	13
6	13	11
7	13	13
8	13	13
Total commercial campgrounds	52	51
Initially members of camping clubs	21	23
Initially beginning campers with less than 3 years experience:	25	24
Initially in agreement with a social definition of camping:	45	43
Initial age structure:		
Under 31	14	16
31 to 40	42	41
Over 40	44	43
Initial camping style:		
Restrictive	52	53
Exploratory	34	35
Undetermined	14	12
Initial weekly income distribution:		
\$100 or less	21	20
About \$150	38	36
\$200 or more	41	43

Table 13.—*Correlation coefficients (r) for 10 measures of camping and annual outdoor recreation activity¹*

	Trend	C-1	C-2	C-3	C-4	E-1	E-2	E-3	E-4
Trend	1.0	0.055	0.167	0.520	0.592	—0.030	0.047	0.153	0.132
C-1	—	1.000	.630	.566	.531	.242	.181	.130	.170
C-2	—	—	1.000	.706	.640	.167	.230	.160	.189
C-3	—	—	—	1.000	.770	.153	.201	.264	.224
C-4	—	—	—	—	1.000	.173	.200	.208	.318
E-1	—	—	—	—	—	1.000	.642	.592	.542
E-2	—	—	—	—	—	—	1.000	.686	.594
E-3	—	—	—	—	—	—	—	1.000	.599
E-4	—	—	—	—	—	—	—	—	1.000

¹For computing correlations, camping trend was coded as 1, 2, or 3, for trends that were decreasing, constant, or increasing, respectively. Variables C-1 through C-4 are the actual days of camping spent in years 1 through 4. E-1 through E-4 are the actual number of outdoor recreation events (exclusive of camping) engaged in each year.



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