

University of Montana

ScholarWorks at University of Montana

Graduate Student Theses, Dissertations, &
Professional Papers

Graduate School

1992

Market segmentation of downhill and cross-country snow skiers based on interpersonal orientation

Scott Marsh

The University of Montana

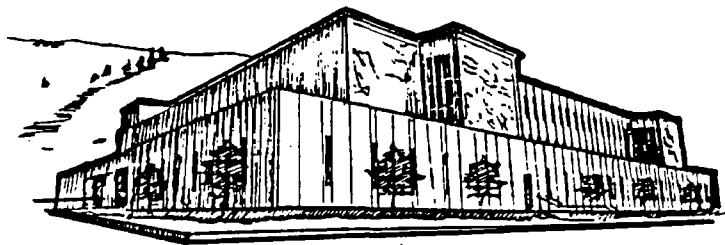
Follow this and additional works at: <https://scholarworks.umt.edu/etd>

Let us know how access to this document benefits you.

Recommended Citation

Marsh, Scott, "Market segmentation of downhill and cross-country snow skiers based on interpersonal orientation" (1992). *Graduate Student Theses, Dissertations, & Professional Papers*. 2933.
<https://scholarworks.umt.edu/etd/2933>

This Thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@mso.umt.edu.



Maureen and Mike
MANSFIELD LIBRARY

Copying allowed as provided under provisions
of the Fair Use Section of the U.S.
COPYRIGHT LAW, 1976.

Any copying for commercial purposes
or financial gain may be undertaken only
with the author's written consent.

University of
Montana

**Market Segmentation of Downhill
and Cross-Country Snow Skiers Based
on Interpersonal Orientation**

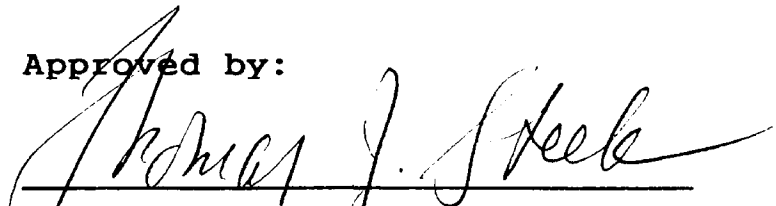
By

Scott Marsh

B.S., University of Missouri, 1989

**Presented in Partial Fulfillment
of the Requirements for the Degree of
Master of Business Administration
University of Montana
1992**

Approved by:



Chairman, Board of Examiners



Dean, Graduate School

May 27, 1992
Date

UMI Number: EP36046

All rights reserved

INFORMATION TO ALL USERS

The quality of this reproduction is dependent upon the quality of the copy submitted.

In the unlikely event that the author did not send a complete manuscript and there are missing pages, these will be noted. Also, if material had to be removed, a note will indicate the deletion.



UMI EP36046

Published by ProQuest LLC (2012). Copyright in the Dissertation held by the Author.

Microform Edition © ProQuest LLC.

All rights reserved. This work is protected against unauthorized copying under Title 17, United States Code



ProQuest LLC.
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106 - 1346

TABLE OF CONTENTS

| | |
|-------------------------------------|----|
| CHAPTER ONE | 1 |
| Introduction | 1 |
| Organization of the Paper | 3 |
| CHAPTER TWO | 5 |
| Review of Literature | 5 |
| Hypothesis | 10 |
| CHAPTER THREE | 11 |
| Survey Instrument Methodology | 11 |
| Research Methodology | 12 |
| Subjects | 13 |
| CHAPTER FOUR | 14 |
| Results | 14 |
| CHAPTER FIVE | 17 |
| Conclusion | 17 |
| Implications | 17 |
| Problems and Limitations | 20 |
| APPENDIX A | 23 |
| Survey Instrument | |

| | |
|---|----|
| APPENDIX B | 27 |
| Chi-Square Test of Independence for the Variables of Interpersonal Orientation and Skiing Preference | |
| APPENDIX C | 28 |
| Means Test Between Interpersonal Orientation Scores of Cross-Country Skiers vs Downhill Skiers | |
| APPENDIX D | 29 |
| Means Test Between Interpersonal Orientation Scores of Skiers Split by Region | |
| APPENDIX E | 30 |
| Distribution of Interpersonal Orientation Scores for Entire Sample | |
| APPENDIX F | 31 |
| Descriptive Statistics for All Variables of the Total Sample | |
| REFERENCES | 33 |

CHAPTER ONE

Introduction

Currently, the total United States skiing industry generates nearly two billion dollars in annual sales (Tanler 1991, 2). The market for warm and dry outerwear (typical to the ski industry) continues to grow and is currently over one billion dollars annually (Camille 1991, 28). This market growth is especially pronounced among college students who tend to be attracted to the sport. College students represent a way for the ski industry to expand current markets. The ski industry as a whole¹ attracts at least 250,000 new skiers annually (Masia 1992, 8). In the United States alone in 1991, cross-country skiing recruited approximately 700,000 new skiers (Dostal 1992b, 16). This growth is attributed to the increasing interest in backcountry and touring cross-country skiing (Dostal 1992a, 26). Skiing in the Rockies amounted to more than 6.5 million skier days² by the end of February 1992. This number is up more than 400,000 from a year earlier (Walter

¹ The ski industry as a whole includes downhill and cross-country skiers.

² Skier days represent the number of skiers purchasing full-day lift tickets at ski areas in the region.

1992, 5). This extends the seven percent increase in skier days per year nationwide for the last three years (Walter 1992, 5). What this means is that skiers are skiing more often each season. A seven percent increase in a two billion dollar industry equals \$140,000,000 for the 1992-93 ski season if this trend continues. All of these factors indicate growth in the ski industry.

The purpose of this professional paper is to identify differences between two types of snow-skiers: Downhill and Cross-Country. Understanding the differences between the two types of skiers could potentially help marketers in the ski industry. The basis for differences explored is interpersonal orientation (inner- and other-directedness) as per Riesman (1952). Inner-directed people tend to follow their own instincts, enjoy their individuality and prefer solitude or small groups of people. Other-directed people tend to be susceptible to others' opinions and behavior. They prefer interacting with larger groups of people and are generally gregarious (Riesman 1952). Knowledge of these distinct character types could help formulate plans for catering to the two skier groups (if a difference exists).

An instrument designed by W.M. Kassarian (1962) specifically measures inner- and other-directedness in people. Through a set of forced-choice questions a

researcher can determine the direction of a person's interpersonal orientation. Combining this information with demographic questions might help segment the skier market and lead to increasing knowledge for catering to cross-country and downhill skiers.

This paper serves to unite previous research in three separate areas: inner- and other-directedness (Kassarjian 1962; Centers and Horowitz 1963; Kassarjian and Kassarjian 1965); downhill and cross-country skiing (Dilley and Pozihun 1986; Jackson and Wong 1982; McBoyle 1985; Mills, Hodgson, McNeely and Masse 1981); and attitude and preference studies of recreationists (Hobson 1977; Greist 1973; Heberlein 1973; Hollender 1977; Peterson 1974; Wohlwill and Heft 1977).

Organization of Paper

Chapter Two of this paper describes the various pieces of literature encountered while doing research for this study. This section also points out gaps in the existing research which led to the development of the research hypothesis.

Chapter Three covers the methodology used in the study. This includes the survey technique, question development and

sample selection.

Chapter Four reports the results of the project and the research hypothesis is treated in this section.

The last chapter summarizes the information presented in Chapter Four and develops it into information potentially useful to the ski industry. Recommendations for future research, as well as problems encountered and limitations are also discussed.

CHAPTER TWO

Review of Literature

Previous recreation research has examined preferences in many outdoor activities. Among these, skiers have been studied to determine perceptions of ski areas with some concentration on skiing behavior. In Dilley and Pozihun's (1986) research on perceptions and behavior, downhill skiers were studied to determine what caused selection of one ski area over another in Thunder Bay, Ontario. In the city of Thunder Bay, five resorts exist. Dilley and Pozihun surveyed skiers at each resort to determine the factors influencing their selection. The results indicated the quality of the ski experience was most significant in choosing a resort. Specifically, well-kept runs and slope variety scored highest. No questions designating skier personality types were presented, but the information provided the five ski resorts with data to consider in future promotion.

A similar study conducted in the same Ontario region examined the profile of downhill skiers (McBoyle 1985). The profile included information regarding socio-economic

background, skiing ability, skiing participation and expenditure patterns. In this study, McBoyle (1985) concluded that the skiers studied, "appeared to come from a wider spectrum of society than was normally found at large ski resorts, and were obviously accustomed to reliable (downhill) skiing of high quality at reasonable cost where lineups were the exception (McBoyle 1985, 32)." This information was general and provided no advantage to the ski resorts in the area for marketing their resorts.

A study by Jackson and Wong (1982) on the perceived conflict between cross-country skiers and snowmobilers provided a possible insight to the inner-directedness of cross-country skiers. Essentially, the study found negative feelings in cross-country skiers toward encounters with snowmobilers. Conversely, indifference tended to characterize snowmobilers' attitudes toward meeting cross-country skiers, or other snowmobilers during their outings. Jackson and Wong (1982) ascribed the differences to the degree of mechanization of the two activities. This study provided some insight into cross-country skiers' motivations, but without the use of a specific measure of personality or other psychological phenomena.

A study of sampling methods at downhill ski resorts showed that face-to-face contact was superior to mailed

surveys in attaining responses for surveys dealing with tastes, perceptions and attitudes. Mills, Hodgson, McNeely and Masse (1981) found that the method of personal interview was most effective in studying highly mobile recreation resource users. Their study was considered in deciding survey methods to reach both downhill and cross-country skiers, but had no other particular relevance to the study at hand.

In studies regarding recreation attitudes, findings pointed to differences between groups with respect to their wilderness participation motivations, attitudes, preferences and perceptions. In a study by Peterson (1974) regarding canoeists and wilderness managers, it was found that canoeists were more environmentally demanding regarding naturalistic surroundings than managers of these areas. The implication here is that services offered in such areas would be less than optimal for canoeists if managers made decisions reflecting their own attitudes and perceptions. This idea provided carryover to wilderness areas situated around downhill and cross-country ski areas. Wilderness area overseers need an understanding of their users' attitudes to retain these users.

Ironically, a study by Heberlein (1973) suggested that surveys of user attitudes often neither help managers meet

user needs nor preserve recreational resources because these studies have little grounding in attitude theory. The direction of Heberlein's study, though, was to change behaviors which Heberlein believed was extremely difficult. In effect, Heberlein's conclusion showed user attitude surveys could produce better resource management if attitudes led to behavior. Heberlein's study showed potential in improving the validity of this research since this study's instrument measures attitudes based on reactions to specific situations (behaviors).

In suggesting marketing implications, Steele (1973) proposed that wilderness enthusiasts could best be targeted with common marketing efforts if their personality types were known. This notion was derived from the "broadened concept of marketing" which contends that marketing can benefit non-business entities, as well as business organizations. This study also used a scale³ to identify and understand "wilderness-philiacs." If this study's approach were applied to downhill and cross-country skiers it might then benefit marketers in reaching specific niches by knowing personality types.

In identifying personality types, Steele (1973) used

³ The scale referred to here is Kassarian's inner- and other-directed scale. This scale is described in detail in the next paragraph.

the same inner- and other-directed scale as the present study. The scale was designed by Kassarian (1962) and was based on David Riesman's (1952) typology of inner- and other-directed personalities. David Riesman (1952) defined social character as, "the part of 'character' which is shared among significant social groups and which, as most contemporary social scientists define it, is the product of the experience of those groups (Kassarian 1962, 216)." He went further to define social character types. 'Inner-directed' people are governed by their individualistic nature of values and morals. 'Other-directed' persons depend on opinions and behavior of others to direct their actions. 'Tradition-directed' people act in terms of long-standing cultural traditions within their group (Kassarian 1962, 215). In developing the Inner- and Other-directed (I/O) scale, Kassarian asserted that "the setting in present-day United States no longer supports tradition-directed people, but is a transitional state in which both inner- and other-directed people and many who combine features of both can be found (Kassarian 1962, 213-214)." Therefore, the social character of 'tradition-directedness' was left out of the I/O scale formulation.

The scale was developed by Kassarian based on descriptive material found in Riesman's (1952) research on

inner- and other-directed people (Kassarjian 1962). Many of the questions were taken from descriptions given to identify typical situations that would clearly distinguish between inner- and other-directed people. The questions were of the forced-choice variety which Kassarjian had found superior to other varieties. A number of subsequent studies have established that this instrument has satisfactory validity and reliability coefficients (Kassarjian 1965; Centers 1962).

Hypothesis

Based on findings from previous research, an important question is whether differences in personality types exist between downhill and cross-country skiers and, if so, what they might be. The main hypothesis in this study is that there is a difference in character types between downhill and cross-country skiers. Specifically, it is hypothesized that downhill skiers are more often other-directed than cross-country skiers. This presumption is based on the general nature of resorts, density of downhill skiers at resorts and the open, convivial atmosphere typical to downhill skiing, as compared to the solitary ski courses, more remote locations and absence of crowds typical of cross-country ski areas.

CHAPTER THREE

Survey Instrument Methodology

The survey consisted of two parts, Kassarian's I/O scale and nine demographic questions (see appendix A). The nine questions followed the 36 item I/O scale. Standard demographic questions of sex, age, marital status, and income were included to obtain information about the sample profile. These variables were also gathered to offer additional marketing information about inner- and other-directed people to potential end-users⁴. Other questions probed experience with downhill and cross-country skiing and the number of days spent downhill and/or cross-country skiing⁵. Answers to questions 43 and 44 could be combined with the preference question for either skiing specialty to determine consistency between number of days skiing and the actual disclosed preference. The final question was intended to determine media habits of the respondents. This publication information was also deemed to be beneficial to end-users in reaching their market through print media. The

⁴ End users specifically include ski areas, ski clothing and accessory manufacturers and ski hardware manufacturers. This is treated with further detail in Chapter Five.

⁵ Based on a yearly average.

general/demographic questions were limited in number in interest of brevity of the survey to enhance the response rate.

Research Methodology

The initial instrument was pre-tested on a sample of 40 subjects. These subjects provided input on the instrument and also allowed for determination of flaws in the instrument. Some typographical errors were found and corrected. Also, some of the additional questions following the I/O scale needed modification. Originally the demographic questions were of the open response variety. These were changed to fixed response (categories) types. Last, the readership question was added. The pre-test also allowed a practice run at the scoring technique for the I/O scale. The possible range of total scores ran from complete inner-directedness (144) to complete other-directedness (0). The mid-point score of 72 was considered the dividing point between the two character types (Kassarjin 1962). For each item a score of -2 was assigned to a strong other-directed answer and a score of -1 was assigned to a less positive other-directed answer. Positive numbers were assigned in the same fashion to inner-directed answers. A constant of +72 was then added to each respondent's score to avoid

negative scores. Inner-directed scores therefore consisted of subjects who had scores equal to or greater than one standard deviation above the mean. The other-directed were defined as those whose scores equaled or surpassed one standard deviation below the mean (Kassarjin 1962).

Subjects

Following the revisions arising from the pre-test the actual data collection began. The sample consisted of residents of Missoula, Montana and students at Idaho State University. The geographical dispersion of respondents provided for some potential variety in replies and additional comparisons.

The final sample consisted of 150 usable surveys. This sample size was deemed sufficient based on previous studies which established the validity of the Interpersonal Orientation scale (Centers 1962; Kassarjian and Kassarjian 1965; Centers and Horowitz 1963).

CHAPTER FOUR

Results

To test the research hypothesis the sample was divided into cross-country skiers, downhill skiers and those with no preference. Since this study's intention was specifically aimed at skiers with a preference, all of the undecided subjects were eliminated. This left 108 subjects with a preference for one activity or the other.

To test the hypothesis presented in Chapter One, a Chi-Squared test of independence (contingency test) was used. This non-parametric quasi-correlation test is appropriate for the nominally scaled data. Formally stated, the hypothesis was:

Null: Social character is independent of skiing preference.

Alternative: Social character is associated with skiing preference.

As shown in appendix B, the calculated value of Chi-Squared was 29.231 with two degrees of freedom. This value is significant far beyond an alpha of .05. This provides compelling evidence that the observed frequencies are different from the expected (or theoretical) frequencies and allows a rejection of the null hypothesis with overwhelming

confidence. To be determined next is in which way the association runs. By comparing inner-directed, cross-country skiers' actual frequency to their expected frequency, the number of actuals is greater than the expected. A similar comparison is made with the frequency for other-directed, downhillers. These data also show the actual is greater than the expected. Both of these comparisons strongly established that in this sample cross-country skiers are more likely to be inner-directed and downhill skiers are more likely to be other-directed.

An additional test used to further establish the assumptions made following the Chi-Square test was a means test. An alpha level of .05 was used for this test.

The details of this calculation are in Appendix C.

Formally stated, the hypothesis was:

Null: The Interpersonal Orientation scores for cross-country skiers are equal to the scores for downhill skiers.

Alternative: The Interpersonal Orientation scores for cross-country skiers are not equal to the scores for downhill skiers.

The null hypothesis was rejected. The direction of the association shows that Interpersonal Orientation scores for cross-country skiers are not equal to the scores for downhill skiers.

An additional examination of the data was run on separate means tests on the sample subjects from Montana and Idaho. Again an alpha of .05 was used. Details appear in Appendix D. In both cases the null hypotheses were rejected. This merely adds additional evidence to the above conclusion that statistically significant differences exist between interpersonal orientation scores of downhill skiers and cross-country skiers.

A distribution for all interpersonal orientation scores for the entire sample appears in Appendix E. Appendix F contains descriptive statistics for all variables for the entire sample.

CHAPTER FIVE

Conclusion

The major finding here is that ample reason exists to believe that downhill skiers are more often other-directed and cross-country skiers are more often inner-directed. This was shown in both the Chi-Square test and the Z-test. Additional support for this conclusion arose from the tests run on the individual regions. Given this information several implications exist.

Implications

Better insight into interpersonal orientation could and should lead to better ski area management, as well as benefit ski industry marketing, by giving marketers information about user preferences. As shown in this study, the type of skiing preferred is strongly related to the interpersonal orientation of the skier. This allows for use in ski resorts and skiing related products.

As applied to downhill ski areas the information can

help in design and marketing. Knowing downhill skiers tend to be other-directed⁶ means that runs could perhaps be designed to be more open with more stopping areas. These two features would allow larger groups to ski together and socialize more often at spots planned to slow the flow of skiers. Lift lines could be widened to allow side-by-side conversations while skiers wait to go up the mountain. Regarding downhill ski lodges and skier accommodations, more open spaces as well as bars and other areas for socializing can be planned and built. The ski area design and accommodations are two factors that bring skiers back. It is the ski area promotion that helps initiate new visitors. Downhill ski promotion can emphasize the previously mentioned resort design features. Promotional media can also demonstrate the resort atmosphere by showing skiers in groups, having on-mountain picnics, or dancing and enjoying themselves during after-ski activities. Group discounts can be heavily advertised relating to lift tickets, lodging and parking.

At cross-country ski areas the inner-directedness of users can be emphasized. Trail designs can be narrow as well as spread out. The congestion of skiers can be avoided by building many routes to primary stopping areas. As

⁶ Other-directed or downhill skiers prefer social atmospheres and groups of people, while inner-directed or cross-country skiers are more independent and prefer solitude.

applied to the area lodging, serenity and solitude could be built in. Intimate hot-tubs for couples and trails for late night walks can be built. Instead of adjoining lodging, individual bungalows could be built. Parking could be spread out to demphasize crowding. The promotion of cross-country ski areas could show skiers on isolated trails. The leaving of phones, schedules and jobs behind could also be featured. Little promotion of groups should be made while maximum exposure of the solitude, tranquility and peacefulness available is paramount.

In the design of ski hardgoods and softgoods⁷ the functional relevance to area design can be considered. Downhill skis could include features applicable to open terrain and enjoyment of use, over performance. Cross-country skis could be designed to take advantage of narrow, back-country trails, as opposed to icy and frequently travelled runs. The promotion of these skis could feature these attributes and how they translate into benefits for either downhill or cross-country skis.

Promotion for both ski hardgoods and softgoods can be targeted to downhill or cross-country skiers. Downhill advertisements and promotions can benefit from groups of

⁷ Hardgoods comprise the skis, boots, bindings and poles. Softgoods make up all accessories such as clothing, goggles, and gloves.

similar outfitted skiers and happy customers passing on to other skiers the qualities of the products they own. Cross-country advertisements could heighten user awareness of functionality and show tests proving the equipment's features.

Benefits of understanding the target market include helping the marketer reach specific individuals. If the approach includes tactics that elicit the downhill skiers' other-directedness and cross-country skiers' inner-directedness, the product or resort will have an edge on competitors.

Problems and Limitations

During the study the primary problem encountered was with the response rate and completion of the survey instruments collected. With a larger sample to work from, more accurate assumptions regarding skiers interpersonal orientation could be made. More geographically dispersed data would also serve to determine whether or not skiers tend to be homogeneous across regions. Future studies could better target ski area resorts and nearby towns to learn about skiers closest to their resort. This would improve

the geographical conclusions made from the instruments. Additional suggestions for future studies would be to include more extensive demographic questions. This would provide even more tangible information useful to marketers. The last major recommendation would be to administer the instrument at ski areas. This would help resorts look at the type of skiers currently attracted to their resort, and if appropriate questions could be included to draw further inferences regarding why these skiers chose a particular area. The present study did not provide data from ski areas due to the dismal snowfall and subsequently abbreviated ski season during 1991-1992.

While there are limitations to this study. It seems likely that aspects of the ski industry could benefit from what has been learned. Studies such as this serve to inform marketers and trigger future research. They also help in anticipating and meeting future needs. Behavior surveys appear to be most useful when user preferences are either unknown or extremely diverse (Heberlein 1973). In this case, even a small amount of information can settle differences among marketing options and improve predictions to better serve skiers.

The primary beneficiaries of this and future research would clearly be skiers of both types. The reason is that

improved knowledge regarding skiers wishes leads to improved market offerings which means closely matched skiers desires. The close matching of skiers desires and market offerings will be a product of competition striving for greater market shares.

Preference Scale and Survey

(Appendix A)

Directions: A number of controversial statements or questions with two alternative answers are given below. Answer every item as it applies to you. Indicate your preference by writing appropriate figures in the boxes to the right of each question. Some of the alternatives may appear equally attractive or unattractive to you. Nevertheless, please make a real attempt to choose the alternative that is relatively more acceptable to you.

If you definitely agree with alternative (a) and disagree with (b), write 2 in the first box and leave the second blank: a b
(2)()
 If you definitely agree with (b) and disagree with (a), write 2 in the second box leaving the first blank: a b
()(2)
 If you have a slight preference for (a) over (b), write: (1)()
 If you have a slight preference for (b) over (a), write: ()(1)
 Do not write any combination of numbers except one of the four given. Never write more than one figure in for any one question. There are no right or wrong answers to this questionnaire. Do not spend too much time on any one item. Please try not to leave out any of the questions unless you find it really impossible to make a decision.

1. With regard to partying, I feel
 - a. the more the merrier (25 or more people present); a b
 - b. it is nicest to be in a small group of intimate friends (6 or 8 people at most). ()()

2. If I had more time
 - a. I would spend more evenings at home doing the things I'd like to do; a b
 - b. I would more often go out with my friends. ()()

3. If I were trained as an electrical engineer and liked my work very much and were offered a promotion into an administrative position, I would
 - a. accept it because it means an advancement in pay which I need quite badly; a b
()()
 - b. turn it down because it would no longer give me an opportunity to do the work I like and am trained for even though I desperately need more money.

4. I believe that
 - a. it is difficult to draw a line between work and play and therefore one should not even try it; a b
()()
 - b. one is better off keeping work and social activities separated.

5. I would rather join
 - a. a political or social club or organization; a b
()()
 - b. an organization dedicated to literacy, scientific or other academic subject matter.

6. I would be more eager to accept a person as a group leader who
 - a. is outstanding in the performance of those activities which are important to the group; a b
()()
 - b. is about average in the performance of the group activities but has an especially pleasing personality.

7. I like to read books about
 - a. people like you and me; a b
()()
 - b. great people or adventurers.

8. For physical exercise or as a sport I would prefer a b
 a. softball, basketball, volleyball, or similar team sport; () ()
 b. skiing, hiking, horsebackriding, bicycling, or similar individual sport.
9. With regard to a job, I would enjoy more a b
 a. one in which one can show their skill or knowledge; () ()
 b. one in which one gets in contact with many different people.
10. I believe a b
 a. being able to make friends is a great accomplishment in and of itself; () ()
 b. one should be concerned more about one's achievements rather than with making friends.
11. It is more desirable a b
 a. to be popular and well-liked by everybody; () ()
 b. to become famous in the field of one's choice or for a particular deed.
12. With regard to clothing a b
 a. I would feel conspicuous if I were not dressed the way most of my friends are dressed; () ()
 b. I like to wear clothes which stress my individuality and which not everybody else is wearing.
13. On the subject of social living a b
 a. a person should set up his own standards and then live up to them; () ()
 b. one should be careful to live up to the prevailing standards of the society.
14. I would consider it more embarrassing a b
 a. to be caught loafing on a job for which I get paid; () ()
 b. losing my temper when a number of people are around of whom I think a lot.
15. I respect the person most who a b
 a. is considerate of others and concerned that they think well of him; () ()
 b. lives up to his ideals and principles.
16. A child who has had intellectual difficulties in some grade in school a b
 a. should repeat the grade to be able to get more out of the next higher grade; () ()
 b. should be kept with his age group though he has some intellectual difficulties.
17. In my free time a b
 a. I'd like to read an interesting book at home; () ()
 b. I'd rather be with a group of my friends.
18. I have a b
 a. a great many friends who are, however, not very intimate friends; () ()
 b. few but rather intimate friends.
19. When doing something, I am not concerned with a b
 a. "what's in it for me" and how long it will last; () ()
 b. what impression others have of me for doing it.

20. As leisure-time activity I would rather choose a b
 a. woodcarving, painting, stamp collecting, photography, or similar () ()
 activity;
 b. bridge or other card game, or discussion groups.
21. I consider a person most successful when a b
 a. they can live up to their own standards and ideals; () ()
 b. they can get along with even the most difficult people.
22. One of the main things a child should be taught is a b
 a. cooperation; () ()
 b. self-discipline.
23. As far as I am concerned a b
 a. I am only happy when I have people around me; () ()
 b. I am perfectly happy when I am left alone.
24. On a free evening a b
 a. I like to go and see a nice movie; () ()
 b. I would try to have a television party at my (or a friend's) house.
25. The persons whom I admire most are those who a b
 a. are very outstanding in their achievements; () ()
 b. have very pleasant personalities.
26. I consider myself to be a b
 a. quite idealistic and to some extent a "dreamer"; () ()
 b. quite realistic and living for the present only.
27. In bringing up children, the parents should a b
 a. look more at how other families bring up their children; () ()
 b. stick to their own ideas on how they want their children brought up
 regardless of what others do.
28. To me it is very important a b
 a. what one is and does regardless of what others think; () ()
 b. what my friends think of me.
29. I prefer listening to a person who a b
 a. knows the subject matter really well but is not very skilled in () ()
 presenting it interestingly;
 b. knows the subject matter not as well but has an interesting way of
 discussing it.
30. As far as I am concerned a b
 a. I see real advantages to keeping a diary and would like to keep on () ()
 myself;
 b. I'd rather discuss my experiences with friends than keep a diary.
31. Schools should a b
 a. teach children to take their place in society; () ()
 b. be concerned more with teaching the subject matter.

32. It is desirable
- a. that one shares the opinions others hold on a particular matter; a b
 - b. that one strongly holds onto their opinions even though they may be radically different from those of others. () ()
33. For me it is more important to
- a. keep my dignity (not make a fool of myself) even though I may not always be considered a good sport; a b
 - b. be a good sport even though I would lose my dignity (make a fool of myself) by doing it. () ()
34. When in a strange city or foreign country I should have no great difficulty because
- a. I am interested in new things and can live under almost any conditions; a b
 - b. people are the same everywhere and I can get along with them. () ()
35. I believe in coffee breaks and social activities for employees because
- a. it gives people a chance to get to know each other and enjoy work more; a b
 - b. people work more efficiently when they do not work for too long a stretch at a time and can look forward to special events. () ()
36. The greatest influence upon children should be
- a. from their own age group and from educational sources outside the family since they can be more objective in evaluating the child's needs; a b
 - b. from the immediate family who should know the child best. () ()

General Questions. Fill in appropriate spaces.

37. Sex male () female ()
38. Age 18 and under () 19-21 () 22-26 () 27-31 () 32 and older ()
39. Marital Status married () single () divorced () widowed ()
40. Family Income Level less than \$10,000 () \$10,001-\$20,000 () \$20,001-\$30,000 () \$30,001 and more ()
41. Have you ever downhill skied before? Yes () No ()
42. Have you ever cross-country skied before? Yes () No ()
43. Number of days downhill skied per year (on average)
- 0-5 () 6-10 () 11-15 () 16-20 () 21-25 () 26 and greater ()
44. Number of days cross-country skied per year (on average)
- 0-5 () 6-10 () 11-15 () 16-20 () 21-25 () 26 and greater ()
45. Which type of skiing do you prefer? Cross-Country () Downhill () No Preference ()
46. Which of the following magazines do you read?
- Ski () Skiing () Powder () X-C Skier () Ski Tech ()

**Chi-Squared Test of Independence for the Variables of
Interpersonal Orientation and Skiing Preference'**

H_0 : Interpersonal Orientation is Independent of Skiing Preference

H_a : Interpersonal Orientation is Associated with Skiing Preference

From the χ^2 table at alpha = .05 and 2 degrees of freedom, the critical value = 5.991.

| | Downhill Skiers | Cross-Country Skiers | No Preference | TOTALS |
|----------------|--------------------|-------------------------|---------------|--------|
| Inner-Directed | 35 (42.67) | 45 (30.67) | 20 (26.67) | 100 |
| Other-Directed | 29 (21.33) | 1 (15.33) | 20 (13.33) | 50 |
| TOTALS | 64 | 46 | 40 | 150 |

$$\chi^2 = 1.378 + 6.699 + 1.667 + 2.755 + 13.399 + 3.333 = 29.231$$

The critical value is less than the calculated value, so H_0 is rejected.

∴ There is a strong association between skiing preference and interpersonal orientation. Downhill skiers are more likely other-directed and cross-country skiers are more likely inner-directed.

Expected values are in parenthesis below the actual values.

Means Test Between Interpersonal Orientation Scores of
Cross-Country vs Downhill Skiers

- H_0 : The mean Interpersonal Orientation score for cross-country skiers equals the mean score for downhill skiers
- H_a : The mean Interpersonal Orientation score for cross-country skiers does not equal the scores for downhill skiers

At alpha = .05, $Z_{critical} = \pm 1.96$

The calculated $Z = 8$

Since the $Z_{calculated} > Z_{critical}$ the null hypothesis is rejected with considerable confidence

∴ There is a statistically significant difference between the average cross-country skier's interpersonal orientation score and the average downhill skier's interpersonal orientation score. This also shows that the inner-directed persons are more likely associated with the cross-country skiing and other-directed persons are more likely associated with the downhill skiing.

**Means Test Between Interpersonal Orientation Scores of
Skiers Split by Region**

Montana

H_0 : The mean Interpersonal Orientation score for cross-country skiers equals the mean score for downhill skiers

H_a : The mean Interpersonal Orientation score for cross-country skiers does not equal the mean score for downhill skiers

Alpha = .05, $Z_{critical} = \pm 1.96$

The calculated Z value = 7.5

Since $Z_{critical} < Z_{calculated}$ the null hypothesis is rejected

∴ There is a statistically significant difference between the average cross-country skier's interpersonal orientation score and the average downhill skier's score. This also shows that the inner-directed persons are more likely associated with cross-country skiing and other-directed persons are more likely associated with downhill skiing.

Idaho

H_0 : The mean Interpersonal Orientation score for cross-country skiers equals the mean score for downhill skiers

H_a : The mean Interpersonal Orientation score for cross-country skiers does not equal the mean score for downhill skiers

Alpha = .05, $Z_{critical} = \pm 1.96$

The calculated Z value = 2.63

Since $Z_{critical} < Z_{calculated}$ the null hypothesis is rejected

∴ There is a statistically significant difference between the average cross-country skier's interpersonal orientation score and the average downhill skier's score. This also shows that the inner-directed persons are more likely associated with cross-country skiing and other-directed persons are more likely associated with downhill skiing.

Distribution of Interpersonal Orientation Scores
for the Entire Sample

| | |
|-----|----------|
| 47 | I |
| 49 | I |
| 52 | III |
| 55 | I |
| 56 | IIIIIII |
| 58 | II |
| 60 | IIII |
| 61 | I |
| 62 | I |
| 63 | III |
| 64 | IIIIIIII |
| 65 | I |
| 66 | I |
| 67 | III |
| 68 | II |
| 69 | III |
| 70 | IIIIII |
| 71 | I |
| 72 | I |
| 73 | I |
| 74 | IIIIII |
| 75 | IIII |
| 77 | I |
| 78 | IIII |
| 79 | II |
| 80 | IIII |
| 81 | III |
| 82 | IIII |
| 83 | IIII |
| 84 | IIIIIIII |
| 85 | II |
| 86 | IIIIII |
| 87 | III |
| 88 | II |
| 89 | II |
| 90 | IIII |
| 92 | III |
| 93 | I |
| 94 | IIIIII |
| 96 | IIII |
| 97 | I |
| 98 | II |
| 100 | I |
| 102 | IIII |
| 104 | II |
| 106 | III |
| 107 | I |
| 108 | II |
| 109 | I |
| 110 | I |
| 112 | III |
| 118 | I |

n = 150

**Descriptive Statistics for All Variables
for the Total Sample**

| | Mean | Standard Deviation | N |
|----------------------|-------|-----------------------|-----|
| Cross-Country Skiers | 94 | 15.86 | 46 |
| Downhill Skiers | 74.73 | 12.14 | 62 |
| Entire Sample' | 79.97 | 12.55 | 150 |

| | Frequency | Percent |
|-----------------------|-----------|---------|
| Gender | | |
| Male | 81 | 54% |
| Female | 69 | 46% |
| Age | | |
| under 18 | 32 | 21% |
| 19-21 | 59 | 39% |
| 22-26 | 50 | 33% |
| 27-31 | 5 | 4% |
| 32 and older | 4 | 3% |
| Marital Status | | |
| Married | 54 | 36% |
| Single | 91 | 61% |
| Divorced | 5 | 3% |
| Widowed | 0 | 0% |
| Income Level | | |
| under \$10,000 | 54 | 36% |
| \$10,001-\$20,000 | 36 | 24% |
| \$20,001-\$30,000 | 30 | 20% |
| \$30,001 and greater | 30 | 20% |

Includes respondents with no preference for either skiing type

APPENDIX F
(cont.)

| Ever Downhill Skied? | Frequency | Percent |
|----------------------|-----------|---------|
| Yes | 181 | 87% |
| No | 19 | 13% |

| Ever Cross-Country Skied? | Frequency | Percent |
|---------------------------|-----------|---------|
| Yes | 101 | 67% |
| No | 49 | 33% |

| Days Downhill Skied per Year (on average) | Frequency | Percent |
|---|-----------|---------|
| 0-5 | 82 | 55% |
| 6-10 | 37 | 25% |
| 11-15 | 17 | 11% |
| 16-20 | 11 | 7% |
| 21-25 | 2 | 1% |
| > 26 | 1 | 1% |

| Days Cross-Country Skied per Year (on average) | Frequency | Percent |
|--|-----------|---------|
| 0-5 | 96 | 64% |
| 6-10 | 25 | 16% |
| 11-15 | 13 | 9% |
| 16-20 | 12 | 8% |
| 21-25 | 4 | 3% |
| > 26 | 0 | 0% |

| Skier Preference | Frequency | Percent |
|------------------|-----------|---------|
| Cross-Country | 46 | 31% |
| Downhill | 64 | 43% |
| No Preference | 40 | 26% |

| Ski Related Magazines Read | Frequency | Percent |
|----------------------------|-----------|---------|
| Ski | 11 | 7% |
| Skiing | 19 | 14% |
| Powder | 6 | 4% |
| X-C Skier | 5 | 3% |
| Ski Tech | 2 | 1% |
| None | 107 | 71% |

REFERENCES

- Bryan, Hobson. 1977. Leisure Value Systems and Recreational Specialization: The Case of Trout Fishermen. Leisure Value Systems. v9 #3: 174-187.
- Centers, Richard. 1962. An Examination of the Riesman Social Character Typology: A Metropolitan Survey. Sociometry. v25 #3: 231-240.
- Centers, Richard & Miriam Horowitz. 1963. Social Character and Conformity: A differential in susceptibility to social influence. The Journal of Social Psychology. v60: 343-349.
- Devlin, Iseult (ed.). 1991. Go for Growth! Skiing Trade News. October 1991: 11-22
- Dilley, R.S. & P. Pozihun. 1986. Skiers in Thunder Bay, Ontario: Perceptions and Behaviour. Recreation Research Review. v12 #4: 27-32.
- Dostal, John. 1992. Trends. STN. Jan 1992: 26.
- _____. 1992. Cross-Country Skier Sold. STN. March 1992: 16.
- Flores, Camille. 1991. Competitive Pressure Boost Waterproof - Breathables. Ski Tech. v5 #5: 28-29.
- Greist, David A. 1976. The Carrying Capacity of Public Wild Land Recreation Areas: Evaluation of Alternative Measures. Journal of Leisure Research. v8 #2: 123-128.
- Heberlein, Thomas A. 1973. Social Psychological Assumptions of User Attitude Surveys: The Case of the Wilderness Scale. Journal of Leisure Research. v5: 18-33.
- Hollender, John W. 1977. Motivational Dimensions of the Camping Experience. Journal of Leisure Research. v9 #2: 133-141.

- Jackson, Edgar L. and Robert A. G. Wong. 1982. Perceived Conflict Between Urban Cross-Country Skiers and Snowmobilers in Alberta. Journal of Leisure Research. v14 #1: 47-62.
- Kassarjian, W.M. 1962. A Study of Riesman's Theory of Social Character. Sociometry. v25 #3: 213-230.
- Kassarjian, H.H. & W.M. Kassarjian. 1965. Occupational Interests, Social Values & Social Character. Journal of Counseling Psychology. v12 #1: 48-54.
- McBoyle, G.R. 1985. Skiing at Lakehead Resorts Winter 1982/83. Recreation Research Review. v11: 22-34.
- McCool, Stephen F and Richard M. Schreyer. 1977. Research Utilization in Wildland Recreation Management: A Preliminary Analysis. Wildland Recreation Research. v9 #2: 98-109.
- Masia, Seth. 1992. Where are the new skiers? Right under our noses. STN. March 1992: 8.
- Mills, Allan S., Ronald W. Hodgson, John G. McNeely Jr., and Richard F. Masse. 1981. An Improved Visitor Sampling Method for Ski Resorts and Similar Settings. Journal of Leisure Research. v13 #3: 219-231.
- Peterson, George L. 1974. A Comparison of the Sentiments and Perceptions of Wilderness Managers and Canoeists in the Boundary Waters Canoe Area. Journal of Leisure Research. v6: 194-206.
- Peterson, George L. and David W. Lime. 1973. Two Sources of Bias in the Measurement of Human Response to the Wilderness Environment. Journal of Leisure Research. v5: 66-73.
- Riesman, David. Faces in the Crowd. New Haven: Yale University Press, 1952.
- Steele, Thomas J. 1973. The Marketing of the Wilderness Cause. Committee Proceedings. #35: 411-414.
- Tanler, Bill. 1991. Selling Skis in the 90's. Ski Tech. v6 #1: 25-29.
1991. Ski Magazine Week in Aspen Offers a Few Industry Insights. Ski Tech's Industry Report. v5 #5: 2.

Walter, Claire. 1992. Snow Blankets Recession in the West.
STN. April 1992: 5.

Wohlwill, Joachim F. and Harry Heft. 1977. A Comparative
Study of User Attitudes Towards Development and
Facilities in Two Contrasting Natural Recreation Areas.
Journal of Leisure Research. v9 #4: 264-280.