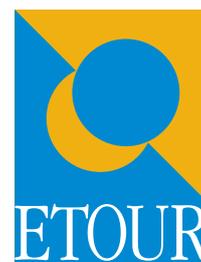
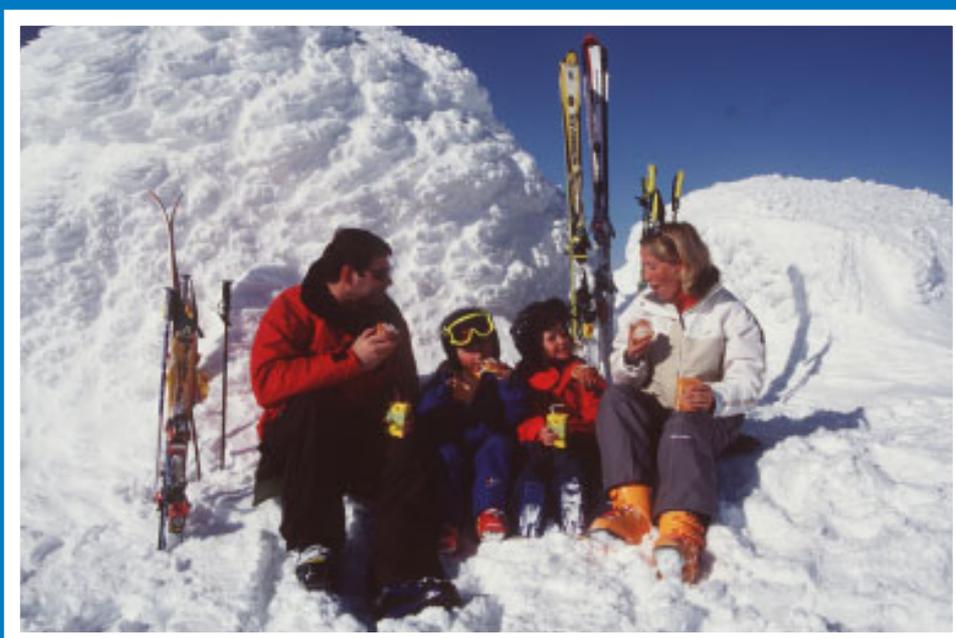


# *Motivation, Constraints and Visits to the Swedish Mountains*

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## Sammanfattning

### Bakgrund

I denna rapport studeras olika hinder och motiv för besök i svenska fjällen. Rapporten bygger på analyser av dels fjällturister i allmänhet, dels utförsåkare och vandrare separat, vilka utgör de viktigaste besöksgrupperna vinter- respektive sommartid i fjällen. För utförsåkare och fjällvandrare sker jämförelser mellan individer som utövat aktiviteten i fjällområdet med individer som utövat samma aktivitet utanför fjällområdet. I rapporten diskuteras olika typer av hinder (exempelvis ålder, inkomst, hälsa och olika sociala hinder) samt motiv som kan övervinna dessa, något som man i fortsatt forskning bör ta hänsyn till. Studien ingår som en del i ett större forskningsprojekt kring svensk fjällturism.

### Syften och mål

Rapporten syftar till att öka kunskapen om hinder och motiv för resande till svenska fjällen. Kunskap kring detta ger dels turismnäringen bättre underlag vid planering, utveckling och marknadsföring av olika tjänster och produkter, dels ökar förståelsen generellt kring de faktorer som påverkar fjällturismen. Målet med forskningen är att ta fram ny kunskap som bidrar till en positiv och hållbar utveckling av turismen i fjällområdet.

### Resultat och slutsatser

- *Ökad ålder, små barn i familjen, brist på tid eller resor till andra platser är inga hinder för besök i fjällen - tvärtom så är fjällturisterna mer aktiva på sin fritid och företar fler andra resor jämfört med de individer som inte besöker fjällen.*
- *Dålig hälsa eller låg inkomst kan utgöra hinder för fjällbesök.*
- *Mentala kopplingar till platsen - i detta fall till svenska fjällen - är den variabel som bäst förklarar om man väljer att besöka fjällen. Det gäller i synnerhet fjällvandrarna.*
- *För utförsåkarna visar resultaten att individer som starkt identifierar sig med aktiviteten i sig är mer benägna att besöka fjällen, något som inte gäller fjällvandrarna.*
- *För utförsåkarna spelar familj och vänner en viktig roll, och de som besöker fjällen har i större utsträckning ett socialt umgänge som åker utför än de som åker utför i andra områden.*
- *Resultaten tyder på att olika motiv - framför allt i form av plats- och aktivitetsidentifiering - är viktiga faktorer som förklarar varför svenskar besöker fjällen och överkommer eventuella hinder, något som inte uppmärksammats så mycket inom tidigare forskning.*

# Motivation, Constraints and Visits to the Swedish Mountains

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## **Abstract**

This study looks at the joint role of constraints and motivations to explain visits to a specific site (the Swedish Mountains) and specific activity participation (downhill skiing and backpacking). We show that place commitment (a motivation) is a stronger predictor of participation than a series of constraints variables—age, income, children, health, and time. We argue that motivation overcomes constraints and that those who are most motivated are more likely to successfully negotiate constraints and participate. We argue that motivation should be more explicitly taken into account in constraints studies. Like several other studies we find that those who are most active visiting other places and participating in other leisure activities are most likely to participate in other forms of recreation. Rather than acting as a constraint, participation in one leisure sector is associated with participation in another sector. We argue that this reflects a sort of recreational career and should be considered in future research.

*Key words:* constraints, motivations, place attachment, skiing, backpacking, Sweden

Explaining participation in outdoor recreation requires an understanding of motivation, knowledge, opportunity, substitutes and constraints. Recent literature in leisure research has focused on constraints. This analysis has assumed that people have a motivation for leisure but are somehow constrained from participation. Participation is seen as a process of overcoming intrapersonal, interpersonal and structural constraints (Crawford and Godbey 1987; Jackson 1988; Crawford, Jackson and Godbey 1991).

While the constraints perspective has made substantial progress in understanding leisure and recreation several studies (e.g. Bialeschki and Henderson 1988; Jackson, Crawford and Godbey 1993; Kay and Jackson 1991; Shaw, Bonen and Mc Cabe 1991; Alexandris and Carroll 1997) found that those with more constraints participated more rather than less as would be predicted by the constraints model. Rather than rejecting the constraints model in the face of such contradictory findings Samdahl and Jekubovich (1997) noted just the opposite had happened. Studies finding that those who are more constrained participate more claimed that the constraint has been successfully negotiated. This gives a tautological flavor to the argument. With such logic the constraints model is not falsifiable. We believe that it is not necessary to reject the model because of such contradictory findings but we should consider additional variables which might overpower constraints.

One such variable is motivation. Those who are highly motivated might be those who are most likely to overcome constraints and participate more in spite of these barriers. Suppose a man plans to go hunting but his wife plans a party on a particular day he was supposed to hunt. If he really doesn't care much about hunting, that is if his motivation is low, he will not enter into a negotiation with the constraint, but rather will give up the hunt. On the other hand if his motivation is high, that is if he really likes to hunt, he will enter into negotiation with her about the party and the hunt. Can she change the time of the party? Does he really have to be there? Can he leave the party early or show up a bit late? If he does attend the party can he have some additional hunting time later on? This scenario suggests that the effect of constraints is not linear—more constraints do not equally reduce participation across all persons. The presence of constraints should reduce participation among those with low motivation, but not for those with high motivation.

Hubbard and Mannell (2001 p. 146) note "...the role of motivation in the constraints process has received little attention." One of the few constraint studies to examine motivation found that participation was positively correlated with motivation (Carroll and Alexandris 1997). They concluded, "Highly motivated individuals are less likely to perceive high levels of constraints and are the more likely to participate in sports." (p. 296). Although Hubbard and Mannell (2001) had relatively weak measures of motivation they found that "motivation influenced negotiation efforts independent of the level of constraints experienced. (P 160).

The problem with considering motivation as such is that most of the early constraint studies have been non specific referring to leisure time in general as the dependent variable (e.g. "How much do you participate in leisure activities.") As

Jackson (1994 p.218) notes “Much of the research to date on leisure constraints has been conducted in a “leisure-general” context (i.e. most published studies have paid little if any attention to the activity or activities with which constraints are associated and how they vary among activities”). This is not surprising since the focus of the theory and measurement was to carefully examine constraints rather than participation in specific activities. Kay and Jackson 1991 (p 311) recognize this problem after using a broad and general dependent variable finding that participation was highest among the most constrained, and they go on to speculate that perhaps “...each type of constraint varies in its applicability to different leisure activities.” We agree that constraints are likely to be activity specific. Absence of game is clearly a constraint for hunting while the presence or absence of wildlife should be no constraint to hiking. One does not have motivation to participate in leisure so much as motivation to participate in particular kinds of activities. We seldom describe people as having high or low motivation for leisure, but rather we describe them as liking sailing, hiking, skiing, hunting, or watching movies. From a policy point of view managers and others are usually concerned with specific kinds of activities rather than leisure in general.

### **Motivations: Activity and Place Commitment**

Motivation can be conceptualized as a level of commitment to an activity. Rather than simply liking or disliking an activity we can think of an activity as an identity—where one sees oneself as a skier, a hunter or a bowler. A recreational or leisure activity can be considered an important part of a person’s life and participation in such activities should overcome many constraints. Those with high levels of motivation should be willing to make sacrifices to engage in a particular form of recreation activity which makes up their identity.

When one thinks about motivation, not only is there a motivation to engage in a particular activity, the *place* where the activity occurs is also important. The broader environmental literature has been rampant with discussions of the importance of place (e.g. Altman and Low 1992; Tuan 1977; Sack 1980). Identities, behaviors and attachments are tied to place. Participating in fishing may have as much to do with having a summer cabin on a lake in northern Wisconsin as it does from an interest in fishing. Thus we would expect those people who are more tied to a particular place to overcome constraints and participate in recreation at that place.

### **Leisure Constraints**

Putnam (2000) has argued that people have less time for leisure today because they work more, commute more and spend more time taking care of children. In self reports of constraints lack of time is often given as a reason for non-participation. Kay and Jackson (1991) report that 36% of their respondents say “lack of time” constrains leisure. Shaw et al. 1991 report that 56% of their sample gives lack of time as an explanation. Alexandris and Carroll (1997) show time to have the highest mean score of

all the constraints. But explanations such as “I don’t have time” may simply be short hand for saying one is not sufficiently interested or that one’s motivation is low. We all have 24 hours in the day and the lack of time may be an allocation issue.

Lack of time does not always reduce participation. The results of previous studies sometimes show that those who report the least time are the most active. Shaw, Bonen and McCabe (1991) reported that men and women who said they had a lack of time because of work spent more time participating in physical activities than those who reported having more time. Those who said they had a lack of time because of other leisure activities also reported spending more time in physical recreation activities. It may be that their high participation in physical activities is what made them report being constrained by time devoted to work and other activities. Alexandris and Carroll, 1997 (p. 121) found that students in the group who reported the highest level of sports participation also perceived high levels of time constraints.

The causality may be suspect when asking people how constrained they feel. Those with the highest motivations may be the most active in many areas and may report that they *feel* constrained by lack of time simply because they are so involved in leisure and other activities. This would argue for asking people what they do rather than how they feel about their available leisure time.

Another structural constraint is the physical ability to participate. A number of studies have found reductions in participation with advancing age (Alexandris and Carroll 1997) and poor health (Shaw et al. 1991). Responsibility for family often has higher priority than leisure and travel. Indeed in some of the constraints studies the data are limited to people without children or some other group to equalize time (Samdahl and Jekubovich 1997). Williams and Lattey (1994) showed that women with more children under 18 were more likely to be in the unlikely skier category.

Income is a constraint but it is different than time since it is unequally distributed. When someone says they don’t have enough money this may well reflect the unequal distribution of wealth as well as the allocation issue that is fundamental with time. Kay and Jackson (1991) found that 53 percent of their sample said that a financial constraint was the most important factor in constraining leisure participation. Perception of high cost has been found associated with lower participation in a number of studies (Shaw et al. 1991). Williams and Frigion (2000) note that cost represent a major constraint to skiing. Several studies have also noted that not having friends and family who participate is one kind of interpersonal constraint. Williams and Lattey (1994) found that those women who were less likely to take up skiing had fewer members of their family who skied and fewer friends who skied.

### **Motivations and Constraints for Visits to the Swedish Mountains.**

In order to examine the effect of motivations *and* constraints it is necessary to consider specific activities that occur in a particular place as well as constraints

associated with those activities. As part of our program of research on tourism in the Swedish mountains we were able to include both sets of variables in a survey of visitors and non visitors. The Swedish mountains are about 1/3 of the area of Sweden comprising 145,500 sq. km. along the Norwegian boarder. It contains only about two percent of the total population, but it is a popular recreation area. For further information on the area see Heberlein, Fredman and Vuorio (2002); Fredman et al. (2001). There is a high rate of participation in mountain tourism in Sweden. In one year nearly 1/4<sup>th</sup> of the Swedish population visits the mountain region and over 85% of these visits are for recreation and leisure. Over 80% of the winter visits participate in downhill skiing and nearly 20% of the summer visitors are there for overnight backpacking. Thus we would expect commitment to skiing and backpacking to be motivators for visits to the mountains.

Some people however are attracted to the mountains themselves as much or more than they are attracted to the activity. A desire to visit the mountains may provoke the specific activity. One would expect that those think more about the mountains and who have special feelings about the mountains would be more likely to overcome constraints and visit more than those who have no such commitment. Thus we would hypothesize that visitors to the Swedish mountains would have a higher activity and place commitment than non visitors.

Regarding the constraints themselves it would be consistent with the theory to predict that those with less time available would make fewer visits. Rather than asking if people don't have enough time we might better ask what else they are doing with their 24 hours a day. Those who are "using" their hours on other forms of recreation that might well be expected to have less time available to make visits to the mountains. Those people who make more trips to other regions might well be expected to have less time available to visit the mountains. Another way of conceptualizing other recreation is that people who engage in other forms of recreation or spend their leisure time going to symphonies have substitutes for mountain visits. We would further expect that those who engaged in more tourism outside the mountains such as trips overseas for recreation would have less time to allocate to trips to the mountains. If other recreation took your time then one would be expected to make fewer mountain visits.

Mountain visits require one to be in good health and relatively young, thus according to the constraints model age and poor health should reduce participation. Number of children was used as an indicator of family responsibilities. Those with more children should be less likely to visit the mountains. Since mountain visits require travel and lodging as well as lift tickets for skiing income should act as a constraint for mountain visits. Finally if one has fewer friends and family participating in a mountain activity it should reduce participation according to the constraints model and the findings of Williams and Lattey (1994).

The Swedish Mountains make an ideal place to compare the relative importance of motivations and constraints. The mountains are by far the best place to ski in the relatively flat country, and these low treeless mountains have a particular place mystique for Swedes. Because of the physical rigor of the activities and the distance from

population centers constraints should be working to reduce participation. Our analysis will be to examine the relative role of activity and place commitment compared to constraints to predict the number of visits to the Swedish mountains as well as participation in two forms of mountains based recreation, downhill skiing and overnight hiking.

## Methods

In this study, data was collected in two phases; 1) a telephone survey to identify visitors and non-visitors to the Swedish mountain region followed by, 2) mailed surveys to collect additional information about the trips reported in the telephone survey.

### *Telephone survey*

In the fall of 1999 a random sample of 3506 Swedish individuals were interviewed using computer aided telephone interviewing. The sampling frame was all households in Sweden outside the mountain region with a registered household telephone, and the numbers were derived from the PAR address register – a commercially available list of all household addresses in Sweden. The individual in the household, aged between 15 and 70 years old, who had the most recent birthday was asked questions about visits to the mountain region of northern Sweden which included at least one overnight stay.

Individuals who reported at least one trip to the mountain region during the last five years were classified as “*visitors*” and asked questions about their most recent trip. If no trip to the mountains was reported respondents were classified as ‘*non-visitors*’. Mountain *visitors* were asked about places visited, time of the year for the trip, main purpose, ways of accommodation and participation in different outdoor activities. The *non-visitors* were asked questions about participation in the same outdoor activities as the “*visitors*”, but for any other trip in Sweden outside the mountain region or abroad. Of those who responded to the telephone survey 83.3 percent gave their name and address to be used in the follow-up mail survey.

### *Mailed Surveys*

Following the telephone survey, a questionnaire was mailed to both visitors and non-visitors who gave their name and address in the telephone survey. The survey contained a general section which applied to all respondents—visitors and non visitors. If the respondents said they went down hill skiing in the telephone interview then they were mailed a survey with a second section focusing on downhill skiing. If they said they had taken a backpacking trip they were mailed a survey that had a second section devoted to backpacking. Hence, for the purpose of this study the analysis is done for *all* Swedish mountain visitors and non-visitors, *downhill skiers* (mountain visitors and non-visitors) and *backpackers* (mountain visitors and non-visitors) respectively.

The questionnaires were mailed out in November 2000. A first reminder was sent out in December 2000, a second reminder card was sent out in December, and in January 2001 a third reminder including a new questionnaire was distributed. In February 2001 a telephone reminder was directed to backpackers outside the mountain region and every third downhill skier (both mountain visitors and non-visitors) that had not returned a questionnaire. Because of a small sample size for backpackers in the telephone survey an incentive (a small backpack) was given to all backpackers that returned a completed questionnaire. Table 1 summarizes the response rates for the different groups.

*Table 1: Sample data and response rates*

	Mountain visitors			Non-visitors		
	All	Back-packers	Downhill skiers	All	Back-packers	Downhill skiers
Number of valid surveys returned	723	93	323	343	28	71
Response rate (%)	55.2	89.8	48.7	56.8	54.1	55.6

## Measurement

### *Constraints*

Constraints related to time are measured as both the number of leisure activities the respondent usually participates in and whether the respondents had taken a trip in Sweden or abroad for recreation last year other than to the mountains. The complete list of the 21 leisure activities is listed in Appendix 1.

Health problems are measured as sickness or physical disability that restricts the ability to participate in physical activities. Additional structural constraints used are age, number of children in household 18 years of age or less, and household income. Social support to visit the mountains is measured as the number of friends and family who participate in downhill skiing and backpacking respectively. Means and standard deviations presented below are for all cases.

Leisure Activities    Number of leisure activities with participation at least once a month or when opportunity occurs  
(Mean = 6.97; S.D. = 2.75)

Other Travel	= 0 if no trip last year = 1 if trip in Sweden <u>or</u> abroad last year = 2 if trips both in Sweden <u>and</u> abroad last year (Mean = 0.67; S.D. = 0.66)
Health problems	= 0 if no sickness or physical disability = 1 if a sickness or physical disability restricts the ability to participate in physical activities (Mean = 0.11; S.D. = 0.31)
Age	Calculated from year of birth on the survey (Mean = 41.5; S.D. = 14.4)
Children	Number of children ( $\leq 18$ years of age) in the household (Mean = 0.73; S.D. = 1.17)
Income	Yearly household income in SEK after taxes (Mean = 276,000; S.D. = 148,000)
Friends and family	Number of friends and family who participate in activity: = 1 if none; 2 if a few; 3 if about half; 4 if most; 5 if almost all (Mean = 2.84; S.D. = 1.02)

### *Motivations*

Motivations are measured as place attachment to the mountains and activity commitment. Both variables are calculated by adding five and three items respectively, each measured on a scale from 1 'completely disagree' to 5 'completely agree'. The sum scores were divided by the number of items so the means and the standard deviations were in the range of the 5 point scale of the original items.

Place attachment (mean = 3.20; S.D. = 0.92; Cronbach alpha = 0.82);

1. To visit the mountains is something I often think about
2. I get a greater satisfaction by visiting the mountains than any other place
3. I would like to visit the mountains more often
4. I have no feelings about visits to the mountains (reversed scale)
5. To visit the mountains is important for my identity

Activity commitment (mean = 2.48; S.D. = 1.15; Cronbach alpha = 0.82);

1. I make personal sacrifices in order to participate in ...
2. I would consider it a great loss if I had to cease participating in ...
3. ... is an important part of my life

### *Mountain visitors and non-visitors*

Visits to the Swedish mountains are recorded as a dichotomous variable (visitor / non-visitor) for all respondents. Because we had more detailed information from the activity surveys we were able to create a scale based on frequency of mountain visits.

Frequency of mountain visits	= 0 if non-visitor
	= 1 if at least one visit 4 or 5 years in the past
	= 2 if at least one visit last three years
	= 3 if 2-5 visits last three years
	= 4 if 6-10 visits last three years
	= 5 if more than 10 visits last three years

This scale correlated highly ( $r=.87$ ) with the dichotomous measures for all respondents and  $r=.74$  for the skier sample and  $r=.77$  for the backpackers. If a person was a non visitor he or she got a zero on the scale. If he or she filled in the downhill skier, backpacker and snowmobiler (which are not reported separately in this study) activity survey the respondent was assigned 1-5 depending on their answers to the question. For the remaining 241 mountain visitors who did not have this question on their survey they were assigned the mean of the other visitor groups (2.69). Thus for 22.6% of the sample we are substituting the mean, but this allow us to take advantage of the more detailed information from the activity surveys.

### **Findings**

For the first comparison (all mountain visitors with all non visitors independent of activity) we have 6 measures of constraints (number of leisure activities, number of other trips, health problems, number of children under 18, age and income) and one motivation measure, place attachment. There is no activity commitment measure since visitors engaged in a wide variety of activities and since some of the non visitors did not engage in any outdoor recreation. In this first analysis we simply compare one motivation against six constraints to see which has a larger influence in explaining visits to the mountains.

For the two activity groups, downhill skiers and backpackers we bring activity commitment in as a second motivation variable. We can also include a 7<sup>th</sup> constraint variable the number of family and friends that participate in the activity. In these analyses we compare seven constraint measures with two motivation measures – place commitment and activity commitment.

In each of the three analyses we first look at the mean differences for each group on each of the independent variables. Then we enter all of the constraints variables simultaneously into a regression model to see if any of the bivariate effects are explained by one or more of the other independent variables and to get an estimate of the variance explained by constraints (Model 1). We then estimate Model 2 which includes place attachment to examine the effect of place motivation along with the constraints variables.

Finally, for the two activity groups we add activity attachment in Model 3 to compare the relative effects of the two kinds of motivations. The models are estimated using linear regression and the coefficients presented are standardized regression coefficients. The dependent variable is frequency of mountain visits.

*Visitor-Non Visitor Model*

The independent effects of constraints and place attachment on participation are presented in Table 2. Two of the six constraints variables were associated with reduced participation as predicted by constraints theory. Visitors had significantly fewer health problems, and significantly higher incomes. Age and number of children did not significantly constrain visits to the mountains. Motivation had a strong effect on visits to the mountains. Mountain visitors were much more committed to the mountains and saw mountain visits as part of their identity as compared to the non visitors. Time constraints acted just the opposite of what might be predicted from the constraints model. Visitors to the mountains participated in *more* other leisure activities and took more trips to other places. Mountain visitors were using more of their time for other leisure activities. Our measure of time constraint found mountain visitors to be more active in their pursuit of leisure time activities and non mountain travel.

*Table 2: Constraints and motivations of Swedes concerning visits to the Swedish mountains (Means). Bold is significant at the .05 level or beyond*

	Visitors	Non-visitors	p-value
<i>Constraints</i>			
Number of leisure activities	<b>7.39</b>	<b>6.10</b>	<b>&lt;0.000</b>
Number of other trips	<b>0.72</b>	<b>0.56</b>	<b>&lt;0.000</b>
Health problems	<b>0.10</b>	<b>0.14</b>	<b>0.035</b>
Number of children under 18	0.74	0.71	0.698
Age	41.00	42.50	0.113
Income	<b>287,000</b>	<b>252,000</b>	<b>&lt;0.000</b>
<i>Motivations</i>			
Place attachment	<b>3.42</b>	<b>2.72</b>	<b>&lt;0.000</b>
N	723	343	

Altogether constraints alone in the multivariate model (Table 3, Model 1) explain 7 percent of the variance in visits. Only income is has a significant effect in the direction predicted by the constraints model. The other two significant coefficients are for time and these are in the opposite direction that would be expected from constraints theory. When

the motivation variable (Place Attachment) is entered into the model the variance explained nearly triples to 20%. Income remains significant as do the time constraints. The standardized coefficient for motivation is approximately 3 times larger than the coefficients associated with constraints. This and the higher R squared in model two argue that place attachment has much more to do with explaining why people visit the mountains than constraints. The final model shows that Swedes who visit the mountains have much stronger place attachment, take trips to other places, participate in more leisure activities, and have higher incomes. There is no influence of age, health, and number of children net of these variables. Only one of the six constraints measures (income) is acting to reduce mountain visits.

*Table 3: The combined role of constraints and motivation (standardized regression coefficients) in explaining mountain visits among Swedes. Dependent variable: Frequency of mountain visits, p-values in parenthesis. Bold is significant at the .05 level or beyond*

	Model 1	Model 2
<i>Constraints</i>		
Number of leisure activities	<b>.177</b> <b>(&lt;.000)</b>	<b>.100</b> <b>(.002)</b>
Number of other trips	<b>.085</b> <b>(.009)</b>	<b>.082</b> <b>(.008)</b>
Number of children under 18	-.023 (.495)	-.039 (.217)
Health problems	-.042 (.198)	-.026 (.398)
Age	-.008 (.822)	-.041 (.211)
Income	<b>.146</b> <b>(&lt;.000)</b>	<b>.134</b> <b>(&lt;.000)</b>
<i>Motivations</i>		
Place attachment		<b>.369</b> <b>(&lt;.000)</b>
Model R-sq	<b>.070</b>	<b>.199</b>
Model p-value	<.000	<.000

*Activity Models: Skier*

Most of the downhill skiers in Sweden (80%) are visitors to the Swedish mountains (n=323). We did find 71 respondents who did not ski in the Swedish mountains. These are classified as non visitors in Table 4. Of this group of non mountain downhill skiers 43.2% ski at small hills outside the mountain region with in Sweden and 57.7% ski internationally in Norway, Europe or North America. In our analysis we will be looking at the role of constraints and place attachment to the Swedish Mountains and commitment to skiing as motivation variables.

*Table 4: Constraints and motivations of Swedish downhill skiers concerning visits to the Swedish mountains (Means). Bold is significant at the .05 level or beyond*

	Visitors	Non-visitors	p-value
<i>Constrains</i>			
Number of leisure activities	7.40	7.48	0.838
Number of other trips	<b>0.83</b>	<b>0.61</b>	<b>0.010</b>
Number of children under 18	1.00	0.80	0.284
Health problems	0.05	0.06	0.686
Age	36.11	37.04	0.575
Income	<b>298,000</b>	<b>255,000</b>	<b>0.052</b>
Friends and family	<b>3.17</b>	<b>2.79</b>	<b>0.003</b>
<i>Motivations</i>			
Place attachment	<b>3.23</b>	<b>2.79</b>	<b>&lt;0.000</b>
Activity commitment	<b>2.52</b>	<b>2.07</b>	<b>0.003</b>
N	323	71	

Two of the seven constraints variables are significantly associated with participation as would be predicted by theory (Table 4). Non visitor skiers have lower income and fewer friends and family who ski. Four of the constraints variables (age, number of children, health problems or number of leisure activities) have no significant effect on number of visits. The number of trips elsewhere is associated but again in the opposite direction than would be predicted from the constraints model. People who make more visits elsewhere are more likely to also make skiing trips to the mountains. Both of the motivation variables have a strong effect on participation. Swedish mountain skiers have both a greater place and activity commitment than the non-mountain skiers.

*Table 5: The combined role of constraints and motivation (Standardized Regression Coefficients) in explaining mountain visits among Swedish downhill skiers. Dependent variable: Frequency of mountain visits, p-values in parenthesis. Bold is significant at the .05 level or beyond*

	Model 1	Model 2	Model 3
<i>Constraints</i>			
Number of leisure activities	-.010 (.850)	-.040 (.465)	-.049 (.372)
Number of other trips	<b>.105</b> <b>(.052)</b>	<b>.107</b> <b>(.042)</b>	<b>.107</b> <b>(.043)</b>
Number of children under 18	-.048 (.391)	-.062 (.253)	-.060 (.264)
Health index	.002 (.969)	-.022 (.671)	-.033 (.527)
Age	-.029 (.599)	-.058 (.290)	-.025 (.648)
Income	<b>.126</b> <b>(.026)</b>	<b>.129</b> <b>(.020)</b>	<b>.108</b> <b>(.054)</b>
Friends and family	<b>.238</b> <b>(&lt;.000)</b>	<b>.157</b> <b>(.004)</b>	<b>.133</b> <b>(.018)</b>
<i>Motivations</i>			
Place attachment		<b>.295</b> <b>(&lt;.000)</b>	<b>.241</b> <b>(&lt;.000)</b>
Activity commitment			<b>.138</b> <b>(.024)</b>
Model R-sq	<b>.097</b>	<b>.173</b>	<b>.184</b>
Model p-value	<.000	<.000	<.000

In Table 5 all of the variables are examined simultaneously. Constraints explain 10 percent of the variance in frequency of visits. Those with fewer friends and family who ski and those with lower income visit less and those who make more trips elsewhere make more trips to the Swedish mountains skiing as we found in the bi-variate analysis. Adding the motivation variable place attachment to the model increases the variance explained to 17%. Those who have a greater commitment to the Swedish mountains make more skiing visits. The friends and family constraints variable decreases but is still significant. This suggests that being committed to the mountains (high motivation) overcomes the constraint of not having friends and family who visit the mountains to ski. If one is highly committed to the mountains then one goes there in spite of this constraint.

When commitment to skiing, the second motivation variable is added to the model (model 3) we only see a small increase in R squared. The constraints, income and friends and family participation remain significant at about the same level as they did in model two, suggesting that these constraints remain as barriers to mountain visits even when we have highly motivated skiers. The standardized regression coefficient associated with place attachment is nearly twice as large as the coefficient associated with activity commitment. Swedish skiers come to the mountains more because of an attachment to the mountains than because of a commitment to skiing.

*Activity Model: Back Packers*

For backpackers none of the constraints variables had a significant effect as predicted by the constraints model (Table 6). Those who backpacked outside the mountains were no older, poorer, or in worse health. They did not have fewer friends and family who backpacked. As we saw for the general visitors non mountain backpackers participate in fewer other leisure activities and so should have had less time available to make trips to the mountains. The relationship was the opposite of what was predicted by constraints theory. In terms of motivations non mountain backpackers are just as committed to the activity. They are however *much more* committed to the mountains. It is the place attachment that is acting as a strong motivation to get the backpackers to the mountains.

*Table 6: Constrains and motivations of Swedish backpackers concerning visits to the Swedish mountains (means). Bold is significant at the .05 level or beyond*

	Visitors	Non-visitors	p-value
<i>Constraints</i>			
Number of leisure activities	<b>8.12</b>	<b>6.89</b>	<b>0.032</b>
Number of other trips	0.73	0.50	0.105
Number of children under 18	0.55	0.46	0.647
Health problems	0.06	0.15	0.166
Age	38.76	38.82	0.986
Income	270,000	248,000	0.510
Friends and family	2.24	2.15	0.559
<i>Motivations</i>			
Place attachment	<b>3.67</b>	<b>2.86</b>	<b>&lt;0.000</b>
Activity commitment	2.86	2.51	0.160
N	93	28	

When all of the variables are taken together the constraints variables are not significant (Table 7). When place attachment is added in model 2 the variance explained increased to 25%. This is higher than the explained variance in model 2 for both general visitors and downhill skiers, suggesting that place motivation is especially important for mountain back packers. When activity commitment is added in model 3 the R square stays virtually the same and the activity commitment variable is not significant. The number of trips taken elsewhere becomes significant in model 2 and model 3 but this is opposite of what might be expected from the constraints model. Mountain overnight hikers are attracted by the mountains, not the activity and are not constrained by the five structural variables, health, family, age, friends and family participation or income.

*Table 7: The combined role of constraints and motivation in explaining mountain visits among Swedish backpackers. Dependent variable: Frequency of mountain visits, p-values in parenthesis. Bold is significant at the .05 level or beyond*

	Model 1	Model 2	Model 3
<i>Constraints</i>			
Number of leisure activities	.059 (.554)	-.038 (.686)	-.062 (.516)
Number of other trips	.155 (.112)	<b>.175</b> <b>(.054)</b>	<b>.184</b> <b>(.045)</b>
Number of children under 18	.014 (.892)	-.065 (.503)	-.060 (.540)
Health index	-.184 (.060)	-.128 (.166)	-.118 (.209)
Age	.010 (.923)	-.044 (.656)	-.047 (.645)
Income	.132 (.186)	.095 (.308)	.096 (.312)
Friends and family	.109 (.258)	.071 (.436)	.040 (.674)
<i>Motivations</i>			
Place attachment		<b>.414</b> <b>(&lt;.000)</b>	<b>.367</b> <b>(.001)</b>
Activity commitment			.092 (.416)
Model R-sq	.092	<b>.251</b>	<b>.256</b>
Model p-value	.179	<.000	.001

## Discussion

Visits to the Swedish mountains have more to do with motivation than constraints. Only two of the six constraints variables affected general participation as predicted by theory. Only two of seven constraints affected skiing participation in the mountains and none of the constraints variables limited overnight backpacking. In contrast place attachment (motivation) played a strong role in separating visitors from non visitors.

Income and health problems limit general leisure visits to the mountains, and income and the number of friends who ski limits skiing in the mountains, but other constraints including the lack of time, age, number of children, and spending time on other leisure activities or making trips to other recreation locations does not appear to constrain mountain recreation.

The Swedes who don't visit the mountains are not staying away because they are constrained, but rather because they have no particular interest in the mountains and the mountains is not part of their personnel. Their motivation to visit the mountains is low. Of the two types of motivation we looked at – place attachment and activity commitment – place attachment was a more powerful predictor than activity commitment. Skiers and backpackers visit the mountains more to be in the mountains than to participate in these activities. It also looks like commitment to activity is more important to downhill skiers than to backpackers.

Hubbard and Mannell (2001) did not find such a strong effect in their study of 186 employees of two Canadian companies who participated in a work site health and fitness program. Motivation in their study was activity motivation. In our data activity motivation was less powerful than place motivation. They also found that activity motivation was uniformly high rather than being negative as well as positive. Their motivation measure was not how committed people were to exercising but why they were committed “I participate ... for my one immediate enjoyment or pleasure.” I participate... because it is good for my health.” Our measures are a clearer measure of place and activity commitment. What we believe our findings suggest is that if activity or (particularly) place motivations are strong enough people will negotiate and overcome constraints to participation. Constraints researchers would do well to measure motivation with the care they have taken to measure constraints.

We have replicated in a rather clear way the somewhat puzzling finding in the constraints literature that participation in other activities or saying one does not have enough time for recreation is associated with *higher* rather than lower levels of participation (Alexandris and Carrol, 1997; Bialeschki and Henderson 1988; Kay and Jackson, 1991; Shaw, Bonen and McCabe 1991). We argued that asking people what other activities they engaged in would be an indicator of a time constraint. Those people who participate in more activities should have less time available for trips to the mountains. But what we found was that those who engage in more activities, who are

more active in leisure and who make more trips for recreation are more likely to visit the mountains even after motivation has been taken into account.

There may also be that some characteristics of the Swedish society limited the role of some of the constraints we have looked at. There are major efforts to provide child care and family care in Sweden. Also the ski industry has gone out of its way to be very family friendly. Poor health is not supposed to limit access and the society is handicap accessible. The income distribution is quite truncated although we did observe it to be a constraint net of motivation. Even older Swedes have a tradition of participation in outdoor recreation so it is no surprise that age is not a limiting factor in mountain visits. There has further been a long tradition of highlighting the mountains and stressing the importance of mountain visits. Although they are not high and majestic the mountains are a special place for Swedes. It is not just the top skiers or the most committed back packers who seek the Swedish mountains. The mountains seem to be a place for everybody. The motivation to visit is high and the constraints are relatively low. Constraints may play a larger role in other societies and for other recreational activities.

While most of the constraints literature as noted earlier has been broad and general looking at theoretical issues, such as the search for hierarchy of constraints. The theoretical advances made in the leisure literature are being carried over as applied researchers in tourism have been using the constraints model to try to better understand participation in skiing. These include studies of skiers and non skiers (Gilbert and Hudson 2000; Hudson and Gilbert 1999; and Hudson 2000) as well as likely and unlikely skiers among the non participants (Williams and Fidgeon 2000; Williams and Lattey 1994). Our research shows as these researchers have been finding that skiing has an interpersonal dimension—the more friends that ski the more likely it will be that a person skis. Our data would suggest those trying to market skiing and to find those who are more likely to ski to look at those who are already active in leisure activities and those who make more trips. It is these groups who we were most likely to find in the mountains. We would also recommend them to look at place attachment. How do people become “hooked” on the mountains?

Our research does suggest that a recreational visit to the mountains is part of a recreational career. Not only do mountain visitors have a greater place attachment, it appears that they have a higher value for leisure. They actively participate in many leisure time activities and travel more. It is no surprise that these people who value recreation and who make trips to other places should be found away from their home (i.e. in the mountains) playing. It appears to be part of an over all pattern. While we didn't ask if a shortage of time kept them from more recreation, we would expect them to say yes. Those, in other studies who say they are constrained by time but recreate more are not inconsistent. Those who say they are short of time simply are very active and have a high need for recreation. One of the reasons they are short of time is that they play so much. This general motivational pattern should be more systematically conceptualized and measured. If this is accomplished it will likely help identify those successful negotiators.

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## Appendix 1

### What do you normally do during your leisure time?

*(Check those activities you normally do at least once a month or when opportunity occurs)*

- Work in an organization or political party
- Participation in team sports
- Climbing, diving, kayaking
- Visit the movie theatre
- Attend a gym or do aerobics
- Do bicycle trips
- Handwork
- Outdoor recreation / spend time in nature
- Hunt, fish
- Listen to music
- Read books
- Do exercises
- Entertainments, dancing
- Watching TV
- Sailing
- Shopping
- Play musical instrument, participate in chorus
- Play tennis or golf
- Participate in adult education class
- Surf the Internet
- Skiing