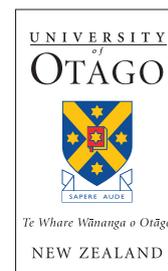


UNDERSTANDING COMMITMENT AND ENDURING INVOLVEMENT IN OUTDOOR RECREATION IN NEW ZEALAND



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Brent Lovelock, Carla Jellum & Anna Thompson

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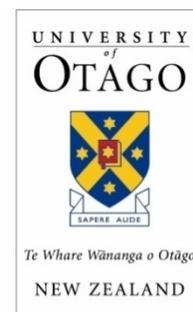
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ABSTRACT

Research Goal: The goal of this research was to assess the levels of commitment and 'enduring involvement' in a number of outdoor recreational activities, and to consider the importance of a range of personal, social and environmental influences upon commitment and enduring involvement. It is one of the first comprehensive studies of ongoing commitment/involvement in outdoor recreation in New Zealand. It also is the first study to apply the Sport Commitment Model, (which was developed to understand participants' ongoing commitment to their activity) in New Zealand, and outside of the competitive, and youth, sporting arena and in a nature-based recreational setting.

Research Method: Four outdoor recreation activities were examined: hunting, fishing, mountaineering and tramping. Conducted in two phases, the study applied a mixed-method approach: a quantitative questionnaire (n = 1,024) was administered across two urban and two regional locations in New Zealand, including Christchurch, Wellington, Wanganui/Taranaki, and Blenheim/Nelson; data was collected on participation (type, frequency, seasonality, the recreation party), motivations, constraints and activity-related expenditure. Sport Commitment items addressed the psycho-social aspects of participation. In-depth face-to-face interviews were conducted with 47 active and lapsed recreation participants in Wellington, Blenheim/Nelson and Dunedin.¹ The interviews focused on the core drivers for participation, the causes of lapsing, and substituting behaviours.

Survey Results: Findings from the survey indicate variations demographically among participants of the four activities. There were also significant differences in participation frequency: hunters and anglers tend to engage more frequently in their activities than do mountaineers and trampers. Findings from the motivation and constraint scales further suggest that for hunters and anglers the quality of the nature-based experience (e.g. scenic beauty, solitude) tends to be more important than for the other participants. Mountaineers and trampers are not only motivated by the nature-based experience but their involvement tends to be also influenced by social motivations. The quality of the recreation resource (e.g. water quality in rivers) and access were more important for hunters and anglers.

Sport Commitment Model Findings: The Sport Commitment Model proved to be a useful and reliable model to examine the psycho-social elements of commitment. Three of the four constructs analysed – psychological commitment, enjoyment and involvement – were found to be correlated with behavioural commitment to recreation - in terms of frequency of participation as well as recreation-related expenditure. The fourth construct, social support, was only weakly related to behavioural commitment, however this did vary between activities, with social support being more relevant for trampers. The psychological commitment-behavioural commitment relationship was strongest for hunters/mountaineers, while the psychological commitment-purchase relationship was strongest for trampers.

Interview Findings: The qualitative interviews with both current and lapsed participants lend weight to the survey findings, particularly around motivations for and benefits from outdoor recreation. The overwhelming commonality among the committed recreationists in our study was their early induction through family

¹ The questionnaire was being administered when the Christchurch earthquake occurred in 2010. The interviews were conducted after the February 2011 Christchurch earthquake. To minimise issues regarding the potential earthquake's influence on interview participants' recreation participation, interviews were conducted with Dunedin residents.

involvement in outdoor recreation. This was abetted by the role of schools in sparking involvement; and, later, outdoor recreation club support. We found that ongoing involvement/commitment to an outdoor activity involves that activity continuing to meet the essential psycho-social needs of participants. Those needs were primarily articulated around a quest for an aesthetic (and ascetic) experience in a non-crowded, stress-free, naturally beautiful environment. For some, the social aspect is highly relevant, but for others solitude is paramount, while almost universally, the physical component is less important.

Lapsing Behaviour: The interviews also provided insights into lapsing behaviour and how personal, social and environmental constraints were negotiated by participants. We found the distinction between commitment and lapsing (ceasing the activity) to be blurred. Rather than being able to dissect participants' lives into a series of distinct periods of involvement or lapsing, we found that due to substitution behaviour, recreation careers more closely resembled a series of overlapping trails - potentially associated with a number of outdoor activities. Lapsing is thus temporally complex, being short-lived, longer or even permanent, but is also multidimensional in terms of the active physical versus passive social aspects of involvement in an activity. Our interviews revealed that lapsing is common, and substituting behaviour is common, but lapsing to nil participation is uncommon. And while the physical aspects of recreation could be substituted by non-nature based activities, other aspects of nature-based recreation participation (e.g. aesthetic, ascetic, spiritual and well-being) were less easily replaced.

Fostering Commitment: In line with previous studies that have addressed leisure and life-stage, we found that fostering ongoing involvement/commitment requires enabling recreationists to overcome the obstacles they face at key phases in their lives – with becoming a teenager, starting a family, moving to a new location and a new job, or suffering from reduced physical mobility in later life. Schools, youth movements, outdoor clubs and formal and informal mentoring were seen to play an important role in this respect. However, clubs were criticised (by some of our participants) for sometimes having limited programmes for families and younger members, for seniors, and for the cost of some activities.

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SECTION 1: INTRODUCTION

1.1 Research Background

Maintaining or increasing participants' commitment to their recreation pursuit is an important goal for the recreation sector. Declining participation has been attributed to larger socio-demographic trends, coupled with alternative leisure opportunities, and is of concern to outdoor recreation providers in New Zealand (SPARC 2009). While little research has addressed commitment to outdoor recreation activities (especially in New Zealand), it is suggested that research on commitment related aspects is important for a range of recreation facility/opportunity providers, not least because of the greater efficiencies of retention compared to recruitment.

1.1.1 Research Goal

In light of the above concerns, the goal of this is: To assess the levels of commitment and enduring involvement' in a number of outdoor recreational activities, and to consider the importance of a range of personal, social and environmental influences upon commitment and enduring involvement.

The activities addressed in this study include hunting, freshwater fishing, mountaineering/climbing and tramping, and are selected as they are among the most common mainstream nature based recreational activities in New Zealand. This research is one of the first comprehensive studies of ongoing commitment/involvement in outdoor recreation in New Zealand. It offers data that may contribute to the development of effective retention strategies by outdoor recreation providers. More strongly committed or 'involved' recreationists play a significant role in achieving recreational NGO and club goals, including revenue generation, networking, community, and developing a positive reputation for the recreational activity. At the individual level, greater commitment/involvement leads to benefits accruing in terms of personal health and fitness, leadership and outdoor skills development.

1.2 Literature Review

While much of the outdoor recreation participation research to date has focused upon constraints, evidence suggests that the constraints to participation may be quite different from the reasons that individuals drop out of recreational activities (Scott and Kim 1998). Hence the focus of this literature review is on the constructs of commitment and involvement. The review defines these constructs, addresses the relationships between them, and discusses their relevance for ongoing active participation in the New Zealand outdoor recreation context.

Declining recreation participation is the underlying context for this study. Empirical research, together with anecdotal evidence paints a picture of declining participation in a number of traditionally popular outdoor recreational activities, internationally and in New Zealand. These include hunting (e.g. Dignan and Cessford 2009; Heberlein and Kuentzel 2002; Lovelock 2008; Napier et al 2008; Wentz and Seng 2000; Zinn 2003); fishing (e.g. Arlinghaus 2006; Dignan and Cessford 2009; Fish and Game 2009; Kuehn 2005); mountaineering (New Zealand Alpine Club 2009); and tramping (Pettinger 2009). In response to such decline, researchers have identified a need for a greater focus on the social-psychological factors surrounding participation (and lapsed participation) (Buchanan 1985; Grant, Thompson and Boyes 1996; Enck *et al* 2000). Meanwhile, international research is increasingly considering retention versus recruitment to maintain participation in outdoor

recreational activities (e.g. Fedler and Ditton 2001; Frawley 2006; Fedler *et al* 1998; Rupert and Dann 1998). Such an approach is highly relevant considering the greater efficiencies of retention over recruitment, with retention up to six times more cost-effective for organisations than attracting new participants (Casper *et al* 2007). Furthermore, and in the context of New Zealand, there has been some research dedicated to understanding the influence of youth and adolescent participation in sport and physical activity (Walker, Ross and Gray 1999), whilst recognising the benefits of continuing to collect such data, for instance, to measure the effect of outdoor experiences and changes over time (Lynch 2002).

1.2.1 Sport Commitment

Sport commitment is defined as a psychological state representing the desire and resolve to continue sport participation in a particular programme, specific sport or sport in general (Casper *et al* 2007: 256). Researchers have been exploring the concept of sport commitment since the 1990s. Studies into commitment are perceived as important to the sports sector, since commitment reflects persistence in an activity, with concomitant improvements in public health, social benefits, membership longevity, revenue generation and organisation sustainability. Thus commitment-related findings are important for recreation managers, providers and professionals since they can be used for designing effective retention strategies. The most widely adopted model of sport commitment is that of Scanlan *et al* (1993). Their model identifies five predictors of psychological commitment to sport: sport enjoyment, personal investment, social support, involvement opportunities and involvement alternatives. Enjoyment is a positive response to the sport experience, reflecting feelings such as pleasure, liking and fun. Personal investment is defined as personal resources that are put into the activity and which cannot be recovered if participation is discontinued: time, effort and money are examples. Social support relates to feelings of encouragement and support that a participant receives from significant others; the more support the social environment provides to an individual to continue participation, the more likely he/she will be committed to participation in that activity. The fourth component, involvement opportunities, has been defined as “valued opportunities that are present only through continued involvement” (Scanlan *et al* 1993:8). This is related to the indirect benefits of continued participation – participants beliefs about the physiological, psychological and social benefits of participation have been suggested as examples. And finally, involvement alternatives (other activities) have been posited to decrease sport commitment. Each of the five determinants has been found to significantly influence commitment, but differ in their predictive strength based on the sample and activity. Although the sport commitment model has been tested, expanded and modified in a number of sporting contexts, research into commitment outside of competitive sports is uncommon. As Casper *et al* (2007) note, there is a gap in the research testing the Sport Commitment Model in an adult recreational setting. Their study is the first to provide some validation for the model in such a setting. Studies of commitment to recreational activities are few and have tended to be theoretical (e.g. Buchanan 1985). In New Zealand, a recent study by Dignan and Cessford (2009) compiled nationwide data concerning negative incidents in outdoor activities including hunting, fishing and tramping with some discussion of how these impact upon participation and commitment. Gidlow, Cushman and Espiner (2009) investigated influences on participation in outdoor activities including fishing, hunting, tramping with a focus on North Canterbury. They found that while there were some differences in the importance of various motivations between the activities, both social and natural motivations were strong. Outdoor organisations seemed to play a minimal role.

1.2.2 Enduring Involvement

Enduring involvement is a concept closely related to (possibly inseparable from) commitment, and has been used by sport, leisure and recreation researchers to reflect beliefs about participation, the importance of and interest in such participation, and the symbolic values derived from it (Havitz and Dimanche 1997). Most conceptualisations of enduring involvement in the leisure literature have been adapted from work in consumer behaviour. These conceptualisations stress an ongoing interest in an activity or associated product with motivational properties, which in turn is manifested in behavioural outcomes. Enduring activity involvement emerges from a congruence between an individual's personal needs, goals and values, and the attributes of an activity (Kyle *et al* 2006). In the leisure literature, researchers have focused on how enduring involvement impacts on other leisure-related behavioural and psychological phenomena. For example, involved recreationists tend to participate more often and are more inclined to engage in other activity-related behaviours (e.g. club membership, magazine subscription, coaching, club organisation/management) than their less involved counterparts. Involved recreationists also have more refined preferences for their leisure experiences, stronger attachments to specific settings or facilities, and more specific preferences for the delivery of activity-related services (e.g. Kyle *et al* 2002; Iwasaki and Havitz 2004; Kyle *et al* 2003). Overall, research suggests that the construct of involvement may help improve our understanding of recreational behaviour, and consequently, professional practice.

Studies have shown that the two concepts of commitment and involvement are highly correlated but distinct (e.g. Siegenthaler and Lam 1992; Kim *et al* 1997). While rarely used together in research, jointly they appear to explain how participants see themselves in relation to their recreational activity, and what makes them commit to the activity. Iwasaki *et al* (2004) provide the only example of the deployment of measures of both involvement and psychological commitment that, together with measures of behavioural commitment, help explain some of the key processes by which participants remain loyal to a recreational activity.

While acknowledging that studies employing the sport commitment model and/or involvement have been of great value, some limitations of the models have been highlighted. The commitment model's sole focus on psychological commitment is seen by some as a shortcoming. Alexandris *et al* (2002) for example, point to the need to validate the model against behavioural measures of commitment (e.g. length of membership, frequency and duration of participation (as per Iwasaki *et al* 2004 above)) in order to make it a useful diagnostic tool for practitioners. Involvement studies have shown that enduring involvement varies by setting type (i.e. where the activity usually takes place) – but little guidance has been provided by research to date about how setting might moderate involvement. Similarly, it has been suggested that situational and environmental factors could also influence commitment (Iwasaki and Havitz 1998), especially in settings where individuals interact with employees, instructors and the environment. Socio-economic status has also been identified as being worthy of greater consideration in involvement (Cerin and Leslie 2008).

In summary, the literature suggests that with static or declining participation in some traditional outdoor recreational activities, there is a need for a more in-depth understanding of what factors are significant in keeping participants participating in their chosen activities. The studies that consider motivation have been useful, and give us some clues as to what to focus on. However, the related constructs of commitment and involvement that have been used effectively in research into sports participation, may offer further insights into the underlying psycho-social aspects of participation. The Sport Commitment Model effectively relates essential components of enduring involvement and commitment. Its constructs of commitment, enjoyment, involvement and social support are linked (and to an extent 'verified') in the model to actual behavioural commitment – i.e.

the frequency of participation, and also to financial commitment through expenditure on the activity. Importantly, the Sport Commitment Model also provides an opportunity to tease out and compare which psycho-social aspects are important for specific recreational activities. Thus recreational stakeholders can clearly see which aspects of commitment are important to focus on, and can see the extent to which commitment can contribute to the sustainability of their activities and/or organisations.

SECTION 2: RESEARCH METHODS

The mixed-methods approach adopted in this study involves two used two complementary data collection methods that were organised in two consecutive phases. They comprise, a quantitative survey targeting current and past participants in four outdoor recreational activities, and in-depth qualitative interviews with a sample of active and lapsed participants from the four recreational activities. The rationale for a mixed-methods approach is that a quantitative survey questionnaire is an accepted method in this research field, based upon comparable work undertaken elsewhere (e.g. Iwasaki and Havitz 2004; Iwasaki *et al* 2004; Kyle *et al* 2003; Kyle *et al* 2002). The survey allows a resource-efficient means of gathering data from a large sample, together with research instruments that allow comparisons both cross-nationally and across recreational activities. The in-depth qualitative interviews complement the survey data, and are in response to researchers' and policy-makers' calls for well-conducted qualitative research into the social and psychological aspects of participation. It has been noted that in the absence of such qualitative research, we are likely to continue to see recreation policy that is not "rooted in the realities of people's lives" (Sport England 2005).

2.1 Quantitative Survey

A quantitative self-completion survey questionnaire was selected as an appropriate instrument for this study. As involvement has been found to be 'product specific', mountaineering/climbing, tramping, hunting and fishing form the case examples, based on their static or declining participation in New Zealand (e.g. Dignan and Cessford 2009; Fish and Game 2009; Lovelock 2008; New Zealand Alpine Club 2009; Pettinger 2009). The survey addressed the two key constructs of active and ongoing participation in recreation: commitment and involvement. These are specifically addressed in the questionnaire through a modified Sport Commitment instrument, supported by data on behavioural commitment (including participation duration, frequency, satisfaction (enjoyment) and substitution behaviour) and socio-economic status. Alteration of the Sport Commitment Model (SCM) is common practice; specifically, the number of subscales may often vary (Alexandris *et al* 2002; Scanlan *et al* 1993). Scanlan *et al* (1993) tested Sport Commitment Model measures with a goal to "create as brief a collection of core items as possible, while still reliably capturing the constructs. In this way, the core collection could be subsumed easily within larger survey batteries or, alternatively, expanded upon as dictated by specific research needs" (p. 17). For this research, our specific research interest and topics, as well as the length of the questionnaire, precluded using all of the SCM subscales. In addition, the motivational instrument adopted for this research is based on items from the Recreation Experience Preference scale (Driver 1977). Kyle *et al* (2006) used this same set of motivational items to examine motivation and involvement for camping. As a result, findings from this research may be useful for drawing comparisons between activities.

Data was also gathered on constraints – the items used as measures of these are adaptations of widely used items from the international body of literature on recreation constraints, and were used in a previous SPARC funded study that considered migrants' outdoor recreation (Lovelock *et al* 2010).

The survey was administered to current and past members of recreational clubs and organisations in the four activities, across four regions in New Zealand. The four regions comprised two urban (Wellington and Christchurch) and two regional (Taranaki/Wanganui and Nelson/Marlborough). This approach was taken to 'control' for locational variations in terms of the type of recreational resources available and variations in

distance/access to these resources. Within each of the activity cohorts a stratified random sample allowed representation of youth and females. A sample size of around 800 (200 from each recreational activity) was the initial target for a margin of error of 3.4% at the 95% confidence level. The draft survey questionnaire was subject to rigorous review, pre-testing and piloting by University of Otago academics, students and community members with different recreation backgrounds. Any inconsistencies identified during the pilot study were clarified.

The online questionnaire was distributed and promoted in three ways from September to November 2010:

- 1) Through recreation and outdoor clubs and organisations that either contacted members via email to invite survey responses or provided email addresses of members to the researchers, and a random sample of potential participants were contacted;
- 2) Postcards were distributed to regional and local retail outlets for customers to obtain and access the questionnaire's web link; and
- 3) Advertisements were placed in two national magazines: November issue 2010 of *Wilderness* and November/December issue 2010 of *Fish and Game New Zealand* providing the questionnaire's web link.

2.1.1 Analysis

Data was analysed using the computer software Statistical Package for the Social Sciences (SPSS version 19). Descriptive statistics were generated and inferential statistical tests employed. The raw data was analysed via univariate analysis of variance (ANOVA). Prior to conducting the ANOVA, frequencies, means, standard deviations, skewness, kurtosis and inter-correlations among items were conducted to assess normality, assumptions, reliability and validity of scores. The cohorts were tested for differences in psychological commitment, involvement, and behavioural commitment across a range of socio-economic factors. Descriptive results for each question are presented and inferential statistical tests undertaken. All statistically significant results for goodness-of-fit tests (Chi-square) presented comply with the standard that no more than 20% of cells have an expected count of less than five occurrences.

Structural equation modelling (SEM) was undertaken to further explore the relationships between variables within the Sport Commitment Model. Structural equation modeling (SEM) is a statistical technique for testing and estimating causal relations. The constructs within the model are 'latent variables' i.e. variables which are not measured directly, but are estimated in the model from several measured variables each of which is predicted to 'tap into' the latent variables. The SEM used AMOS version 19, which is a SEM add-on package in the statistical analysis programme IBM SPSS. The goodness of fit for each model was assessed using Root Mean Square of Approximation (RMSEA).

2.2 Qualitative Interviews

In-depth, face-to-face semi-structured interviews were undertaken with a sample of highly committed/involved and lapsed participants from each of the four activities to gain a comprehensive understanding of commitment, involvement and lapsing behaviour within an outdoor recreation context. It was anticipated that 40 to 60 interviews would be conducted, with a final sample of 47. The qualitative interviews took place following the quantitative survey, and were informed by the findings of the survey, in terms of structure and specific areas of focus. Sub-components of the quantitative survey constructs (commitment and involvement) were used as

starting points for in-depth conversations about participants' ongoing or lapsing behaviour. The interviews went beyond a simple examination of constraints to consider the relationship of the activity with core values or drivers for recreation participants. Similar to the recruitment of participants for the quantitative survey, lapsed participants were difficult to access, partially owing to the fact that whilst not physically participating in the specific activity there was evidence that lapsed participants had engaged in related substitute activities (i.e. attending club meetings but not being active); however, the final interview sample contains at least one lapsed participant from each of the four recreation activities. For more detail, see Section 5.

2.3 Ethical Considerations

This research involving both quantitative and qualitative approaches required consideration of a number of ethical issues. Ethical approval was granted at the departmental level (Category B), University of Otago. Ethical concerns were addressed by the use of the following measures (Appendix 2, 3, 4):

1. An information sheet including all necessary information regarding the research (aims and purposes) was provided to every interview participant, emphasising that participation was voluntary;
2. Participants were assured of anonymity in the recording and reporting of data;
3. The researcher's contact details were included in the information sheet in case of additional questions or concerns;
4. Analysis of data was conducted in aggregate form, so to further contribute to anonymity;

At the completion of this research, all interview transcripts and digital recordings remain in secure storage in the Centre for Recreation Research for five years, and then will be destroyed.

2.3 Limitations of the Study

The vast majority of the survey participants were currently active in their activity. Part way through administration of the questionnaire, it became evident that there were few survey participants who were lapsed or inactive in the four activity areas. This may be attributed to a difficulty in obtaining outdoor club and organisation membership lists that were not current as were reliant on club administrators having access to records. In an attempt to further recruit lapsed participants, advertising was conducted through national magazines and local sporting retail outlets and by word of mouth. Despite this attempt, few lapsed participants volunteered to take part in the survey. As a result, the qualitative component of this research attempted to identify potential lapsed participants, and, although this also proved difficult, a number of recruits were willing to discuss their lapsed behaviour and this qualitative material informs this portion of the research goal.

A further limitation relates to sample size – while the overall sample size ($n=1024$) was acceptable, this varied across the four recreational activities, with angling and tramping being well represented, but hunting and mountaineering less so. While the number of hunters and mountaineers were adequate to undertake meaningful statistical analyses in general, and to compare these groups with the others, there was an impact specifically on structural equation modelling for the SCM. The data demands of structural equation modelling meant that in practice, while we could treat the anglers and the trampers as separate groups, we had to combine the mountaineers and hunters together. Obviously given the differences in motivation and participation data for these groups, this was not the ideal approach – so with this caveat, readers are cautioned to interpret the SCM *as it applies to this combined group of hunters and mountaineers* with caution.

SECTION 3: QUESTIONNAIRE FINDINGS AND DISCUSSION

This section is divided into eight subsections. The first subsection presents the questionnaire response rates and the provision of statistically valid estimates. The second and third subsections compare socio-demographic variables and types and frequency of involvement to the main recreation activities (e.g. hunting, freshwater fishing, mountaineering², and tramping). The following four subsections address each recreation activity's specific findings and the last section examines recreation related spending.

3.1 Questionnaire Responses

Exact numbers of participants reached through the three methods of questionnaire distribution is difficult to determine or estimate as the recreational clubs/organisations utilised a variety of database contact details in the distribution, which could have resulted in duplication. Based on the information obtained from club and organisation leaders, membership numbers fluctuate and the information on successful email recipients is unclear (i.e., spam filters may limit recipient access), therefore, the 'response rate' could prove either grossly under- or over-estimated, and is thus not provided. The total numbers of *potential* recipients is provided in Table 1.

Table 1: Questionnaire Distribution Numbers

Questionnaire distribution*	Hunting	Freshwater Fishing	Mountaineering / Climbing	Tramping	Total
Clubs/organisations (number of surveys distributed via email)					
Total possible contacts	4,850	7,081	1,199	1,184	14,314
Local advertising (number of postcards distributed per location)					
Wellington					800
Christchurch					600
Wanganui/Taranaki					200
Blenheim/Nelson					400

Note: Estimates were based on information obtained through club and organisation leaders. Some organisations were unsure of the club membership numbers, therefore the reported number of potential participants is likely to be underestimated.

A total of 1,077 participants accessed the online questionnaire via LimeSurvey®. Of the total surveys, 53 were removed from the analysis allowing for a 95.1% usability rate. Reasons for omission were:

- 1) Participants were NOT a New Zealand citizen, resident or lived in New Zealand for at least one year (n = 13).
- 2) Incomplete questionnaires were removed if responses did not continue past Question 12 (basic demographic data) (n = 27).
- 3) Questionnaires from lapsed participants were removed as there were insufficient numbers to include in the analysis (n = 3).
- 4) Duplicates were removed based on a cross-examination of duplicate I.P. addresses and responses (n = 9).

² 'Mountaineering' participants also refer to other forms of climbing activities e.g. rock climbing, bouldering and ice climbing. Due to their specific skill requirements it was deemed more appropriate to group these activities with mountaineering than tramping.

5) The first questionnaire was removed as it was a final 'live' online pilot by researchers (n = 1).

Table 2: Questionnaire Returns by Recreation Activity

Response	Hunters	Anglers	Mountaineers	Trampers	Total
Frequency	155	478	137	254	1,024
Percent	15.1%	46.7%	13.4%	24.8%	100.0%

3.2 Participant Demographics per Activity

Table 3 presents socio-economic profiles of the questionnaire participants (see Table 4 for ethnicity data). Socio-economic and demographic information collected included gender, age, number of dependents, employment status, occupation, income, education, and place of residence. For statistical analysis purposes, items within some categories - employment, occupation, and education - were aggregated.

3.2.1 Gender

Respondents by gender were 856 male (83.6%) with 168 female respondents (16.4%). There were statistically significant differences in gender representation in the sample between activities. Females were under-represented in the activities of hunting and fishing compared to mountaineering and tramping ($\chi^2 = 135.417$; $df = 3$; $sig. = .000$). Even in each of the latter activities, females only comprise one quarter to one third (approximately) of participants.

Table 3: Socio-Economic Profile of Sample by Recreation Activity

Category	Hunter (n = 155)		Angler (n = 478)		Mountaineer (n = 137)		Tramper (n = 254)		Total (N = 1,024)	
	n	%	n	%	n	%	n	%	n	%
GENDER (N = 1024)										
Male	146	94.2%	448	93.7%	102	74.5%	160	63.0%	856	83.6%
Female	9	5.8%	30	6.3%	35	25.5%	94	37.0%	168	16.4%
AGE (N = 1024)										
18 – 24 yrs	11	7.1%	15	3.1%	8	5.8%	9	3.5%	43	4.2%
25 – 34 yrs	31	20.0%	61	12.8%	33	24.1%	46	18.1%	171	16.7%
35 – 44 yrs	43	27.7%	106	22.2%	43	31.4%	57	22.4%	249	24.3%
45 – 54 yrs	47	30.9%	132	27.6%	27	19.7%	58	22.8%	264	25.8%
55 – 64 yrs	17	11.0%	108	22.6%	19	13.9%	53	20.9%	197	19.2%
65 – 74 yrs	6	3.9%	45	9.4%	6	4.4%	27	10.6%	84	8.2%
75+ yrs	0	0%	11	2.3%	1	0.7%	4	1.6%	16	1.6%
DEPENDENTS (N = 1024)										
Yes	73	47.1%	222	46.4%	42	30.7%	77	30.3%	414	40.4%
No	82	52.9%	256	53.6%	95	69.3%	177	69.7%	610	59.6%
EMPLOYMENT STATUS* (N = 1021)										
Full-Time	119	76.8%	359	75.4%	95	69.3%	165	65.2%	738	72.3%
Part-Time	13	8.4%	40	8.4%	15	10.9%	37	14.6%	105	10.3%
Unemployed/Beneficiary	8	5.1%	7	1.5%	6	4.4%	9	3.6%	30	2.9%
Student	8	5.2%	15	3.2%	16	11.7%	8	3.2%	47	4.6%
Retired	7	4.5%	55	11.6%	5	3.6%	34	13.4%	101	9.9%
OCCUPATION* (N = 844)										
Manager	38	28.8%	100	25.0%	17	15.6%	32	15.8%	187	22.2%
Professional	54	40.9%	186	46.5%	74	67.9%	121	59.6%	435	51.5%
Techn./Trade/Community	23	17.4%	75	18.8%	12	11.0%	28	13.7%	122	16.4%
Clerical/Admin./Sales	10	7.6%	23	5.8%	6	5.5%	14	6.9%	27	6.3%
Machinery Op./Labourer	7	5.3%	16	4.0%	0	0%	8	4.0%	15	3.7%
INCOME (N = 1024)										
\$20,000 or less	12	7.7%	31	6.5%	21	15.3%	24	9.4%	88	8.6%
\$20,001 to \$40,000	21	13.5%	68	14.2%	11	8.0%	46	18.1%	146	14.3%
\$40,001 to \$60,000	29	18.7%	99	20.7%	19	13.9%	43	16.9%	190	18.6%
\$60,001 to \$80,000	44	28.4%	104	21.8%	33	24.1%	65	25.6%	246	24.0%
\$80,001 to \$100,000	20	12.9%	50	10.5%	20	14.6%	30	11.8%	120	11.7%
More than \$100,000	19	12.3%	89	18.6%	22	16.1%	29	11.4%	159	15.5%
Do not wish to respond	10	6.5%	37	7.7%	11	8.0%	17	6.7%	75	7.3%
EDUCATION* (N = 1024)										
Primary/Secondary	35	22.6%	91	19.0%	17	12.4%	39	15.4%	182	17.8%
Trade Certificate/Diploma	52	33.5%	156	32.6%	17	12.4%	55	21.7%	280	27.3%
University Degree/ Higher	68	43.9%	231	48.3%	103	75.2%	160	63.0%	562	54.9%
RESIDENCE (N = 1024)										
Urban	100	64.5%	391	81.8%	112	81.8%	216	85.0%	819	80%
Rural	55	35.5%	87	18.2%	25	18.2%	38	15.0%	205	20%

*Note: Original categories were collapsed for statistical analysis for Employment, Occupation and Education. Percentages represent the total percent of response within each activity category.

3.2.2 Age

The majority of participants fell into the '45 – 54 years of age' category; closely followed by the '35 – 44 years of age'; and '55 – 64 years of age' categories

Significant differences ($\chi^2 = 49.339$; $df = 18$; $sig. = .000$) were found to exist between age and recreation activity. Hunting and mountaineering participants were younger than fishing and tramping participants (Figure 1).

Mountaineering showed a peak in participation in the '35 – 44 years of age' category, followed by the majority of hunters and anglers participating from '45 – 54 years of age', and tramping is much more evenly distributed between '35 – 44 years of age' and '45 – 54 years of age'.

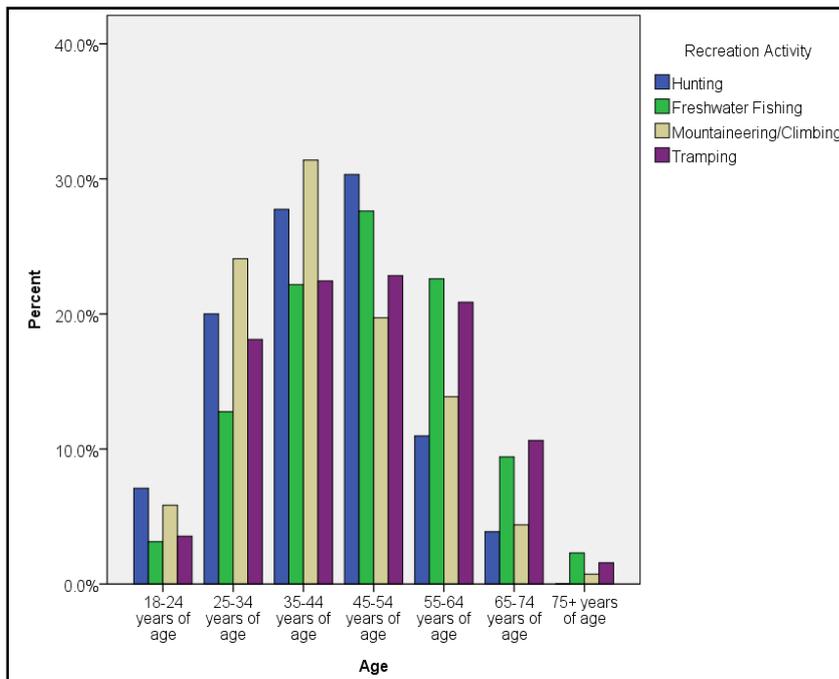


Figure 1: Age by Activity

3.2.3 Ethnicity

Participants were asked to indicate their ethnicity based on six ethnicity categories or one 'other' category. A 'do not wish to respond' category was also provided. Due to a lack of responses in the 'African' category, this was merged with the 'Other' category. Participants were allowed to select multiple ethnicities; therefore, the reported number of ethnic groups is based on combined totals of actual responses for each category (Table 4).

Table 4: Ethnicity by Activity.

Ethnicity	Hunter	Angler	Mountaineer	Tramper	Total	
	(n = 155)	(n = 478)	(n = 137)	(n = 254)	(N = 1,024)	
	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	%
New Zealand/European	128	410	107	205	850	83.0%
Māori	7	14	3	9	33	3.2%
Asian	0	5	1	1	7	0.7%
European (non-New Zealand)	12	31	16	30	89	8.7%
Pac. Islander (not Māori)	0	1	0	0	1	0.1%
Do not wish to respond.	4	3	7	5	19	1.9%
Other	10	32	8	14	63	6.3%

Note: Participants could report multiple ethnic/cultural backgrounds; therefore, the reported percentages are cumulative totals.

Most participants indicated a New Zealand/European ethnic background (83.7%). Very few Maori, Pasifika, Asian or participants of other ethnicities responded. Due to a large number of categories and the majority of responses in the New Zealand/ European category, statistical tests for difference between ethnicity and recreation activity were unable to be conducted.

3.2.4 Dependents

Each participant was asked to indicate if they had dependents living with them in their household. The majority (59.6%) did not, whereas 40.4% stated 'yes' to having dependents. Chi-square tests show a significant difference ($\chi^2 = 26.261$; $df = 3$; $sig. = .000$) between household dependents and recreation activity. Hunting (47.1%) and freshwater fishing (46.4%) participants tend to be in households with dependents, whereas mountaineering (69.3%) and tramping (69.7%) households are more likely to be dependent-free. This likely reflects the differences in age distribution of participants discussed above (Section 3.2.2).

3.2.5 Employment

Participants were provided six categories to indicate their employment status: 'full-time employment', 'part-time employment', 'unemployed', 'student', 'retired', and 'beneficiary'. Due to a lack of responses in the 'beneficiary' category, this was merged with the 'unemployment' category. The majority of all participants were employed full-time (72.3%). Only 10.3% indicated part-time employment closely followed by 9.9% retired. Only 4.6% of the participants were students and 2.9% were unemployed/beneficiaries. Significant difference were found between employment and activity ($\chi^2 = 50.058$; $df = 12$; $sig. = .000$).

Hunters (76.8%) and freshwater anglers (75.4%) were in full-time employment. Student participants were primarily mountaineers (11.7%) and retirees had the strongest representation in fishing (11.6%) and tramping activities (13.4%) (Figure 2).

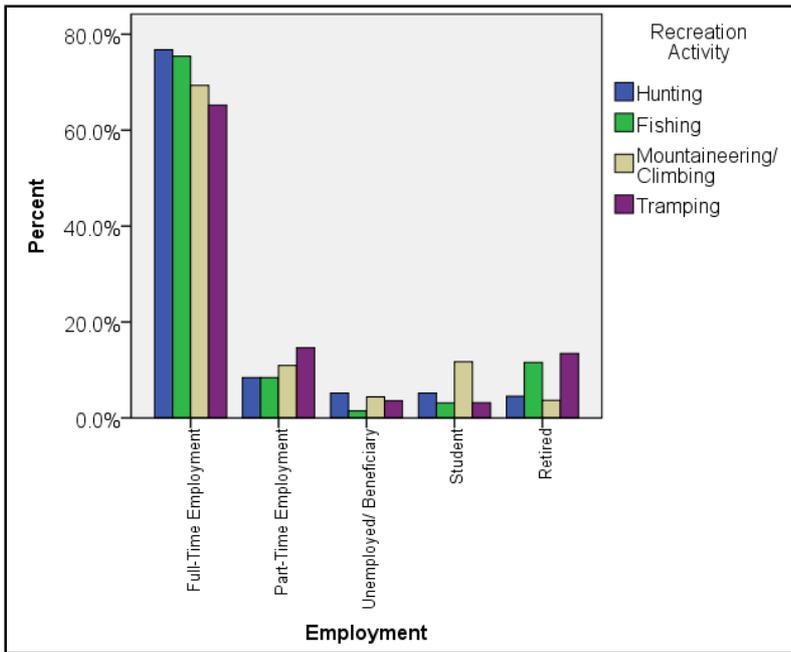


Figure 2: Employment Status by Activity

3.2.6 Occupation

A total of 844 participants indicated their occupation (Figure 3). The participants were asked to identify their occupation, if employed, based on eight categories which are standard in the New Zealand occupation handbook including 'manager', 'professional', 'technician/trade', 'community and personal service', 'clerical and administrative', 'sales', 'machinery operators/drivers', and 'labourer'. Six of the eight categories were combined for statistical purposes creating a total of five occupational categories.

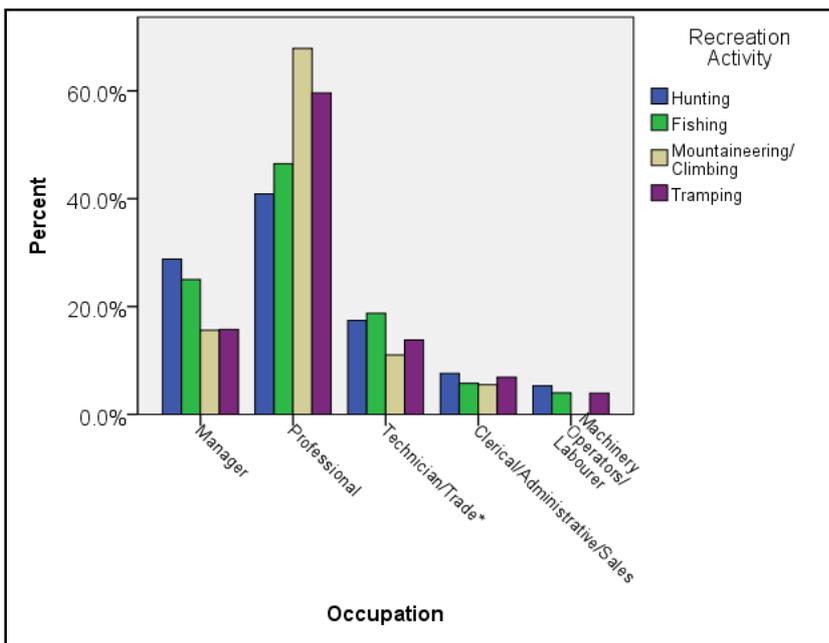


Figure 3: Occupation by Activity

Professionals (51.5%) made up the majority of participants followed by managers (22.2%). A chi-square analysis indicates a significant difference in terms of which occupations were represented in each recreation activity ($\chi^2 = 33.112$; $df = 12$; $sig. = .001$). Professionals were more evident in the mountaineering and tramping. The technician/trade occupation category was more evident within the hunting and fishing group.

3.2.7 Income

All participants were asked to indicate their personal income levels before taxes and seven categories (Figure 4). The largest group of participants (24.0%) fell within the income range of \$60,001 to \$80,000.

Chi-square tests revealed a significant difference between income levels by recreation activity ($\chi^2 = 31.277$; $df = 18$; $sig. = .027$). Most participants income, across all recreation activities fell between \$60,001 - \$80,000. The mountaineering group had the highest number of participants within the lowest earning income bracket, '\$20,000 or less', possibly reflecting the youthful and student status portion of this group. However, high earners were also well represented in this activity. Fishing participants also tended to be marginally more evident in the higher income brackets (above \$80,000).

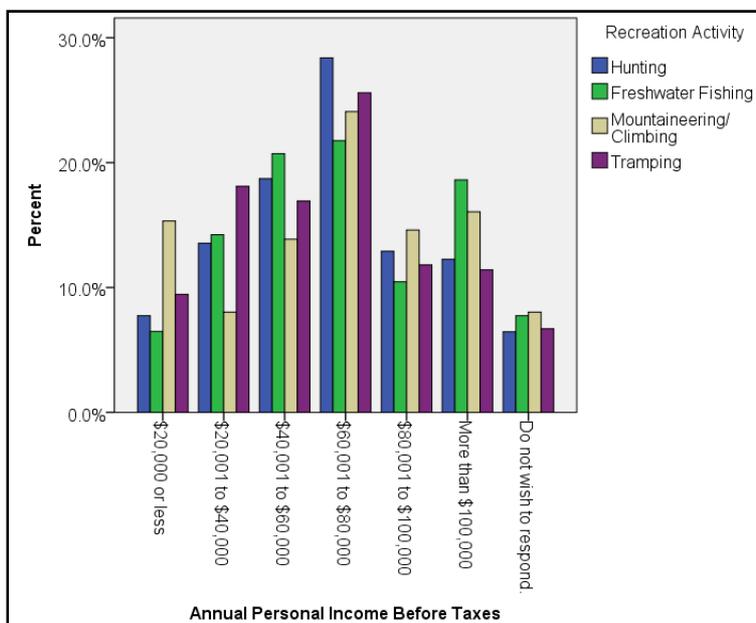


Figure 4: Annual Personal Income before Taxes by Activity

3.2.8 Education

Participants were asked to indicate their highest level of education based on four categories: 'primary school', 'secondary school', 'trade certificate/diploma', or 'university degree or higher'. The first two categories were combined since only one participant indicated 'primary school' as the highest form of education (Figure 5). The majority (54.9%) of all participants have a university degree or higher, followed by 27.3% obtaining a trade certificate/diploma and 17.8% completing up to secondary school. Significant differences were found between the recreation activities ($\chi^2 = 47.260$; $df = 6$; $sig. = .000$). In general, hunting and fishing participants had a lower level of formal education compared to mountaineering and tramping participants.

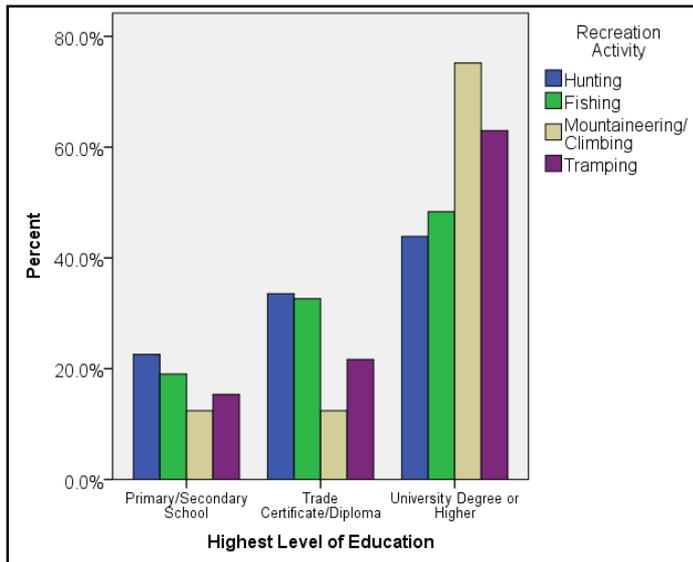


Figure 5: Highest Level of Education by Activity

3.2.9 Location & Residence

Participants were asked to indicate 1) their primary residence and 2) location of residence (i.e. urban or rural). Four residential categories were provided including Taranaki/Wanganui, Wellington, Nelson/Marlborough, and Christchurch (Table 5). An 'other' category was provided in the instance a recreation participant did not live in these four areas. Most participants indicated they were from Christchurch (52.7%) followed by 23.9% residing in Wellington, 16.9% from Nelson/Marlborough and only 3.9% from Taranaki/Wanganui. Twenty-six participants indicated they were from 'other' locations. Ultimately, these responses from individuals from other areas were included in the sample because there was no reason to query their validity and thus contribution of the analysis. They also helped build the sample size, in particular of hunting and mountaineering.

Table 5: Residential Location by Activity.

LOCATION	Hunter (n = 155)		Angler (n = 478)		Mountaineer (n = 137)		Tramper (n = 254)		Total (N = 1,024)	
	n	%	n	%	n	%	n	%	n	%
Taranaki/Wanganui	4	2.6%	10	2.1%	4	2.9%	22	8.7%	40	3.9%
Wellington	24	15.5%	98	20.5%	46	33.6%	77	30.3%	245	23.9%
Nelson/Marlborough	30	19.4%	73	15.3%	15	10.9%	55	21.7%	173	16.9%
Christchurch	89	57.4%	289	60.5%	65	47.4%	97	38.2%	540	52.7%
Other	8	5.2%	8	1.7%	7	5.1%	3	1.2%	26	2.5%

Regarding urban and rural locations, because of our distribution methods and population distribution, urban-based participants dominated the sample (80% overall). We examined the location of residence by recreation activity and found a significant difference with hunting activities ($\chi^2 = 28.466$; $df = 3$; $sig. = .000$). A relatively greater proportion of hunters tended to be rural based.. (Figure 6).

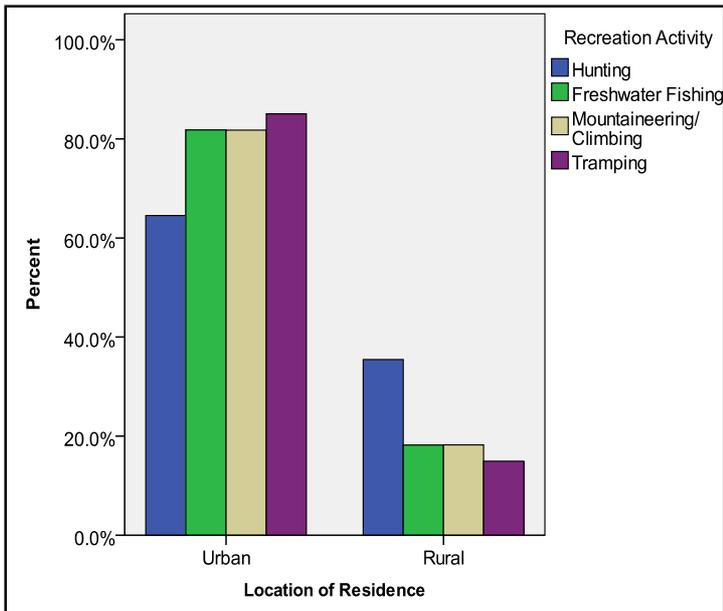


Figure 6: Location of Residence by Activity (Urban versus Rural)

3.3 Comparing Participation in each Activity

This section considers recreation participation including frequency of participation, social involvement and experience level in relation to type of recreation activity. Participation variables include current types of participation, frequency of participation, years of participation, participation in the past 12 months, seasonality, experience level, social involvement (e.g., recreating with friends or club members), and overseas participation (Table 6). Descriptive statistics are provided and, where applicable, chi-square significant tests applied to each factor to determine any significant differences between variables.

Table 6: Comparing Participation by Recreation Activity

Category	Hunter (n = 155)		Angler (n = 478)		Mountaineer (n = 137)		Tramper (n = 254)		Total (N = 1,024)	
	n	%	n	%	n	%	n	%	n	%
FREQUENCY OF PARTICIPATION (N = 1016)										
Within the Past 2 Years	150	98.7%	472	99.6%	134	97.8%	248	98%	1004	99.1%
2 to 5 Years Ago	2	1.3%	2	0.4%	3	2.2%	5	2%	12	0.9%
YEARS OF PARTICIPATION (N = 1011)*										
5 years or less	17	11.2%	70	14.8%	36	26.9%	35	15.5%	161	16.0%
6 – 10 Years	12	7.9%	40	8.5%	15	11.2%	28	11.1%	95	9.4%
More than 10 Years	123	80.9%	363	76.7%	83	61.9%	185	73.4%	754	74.6%
FREQUENCY IN PAST 12 MONTHS (N = 1011)										
Most Days	1	0.7%	10	2.1%	2	1.5%	4	1.6%	17	1.7%
Weekly	34	22.4%	103	21.8%	27	20.1%	43	17.1%	207	20.6%
Once a Month	93	61.2%	233	49.3%	56	41.8%	125	49.6%	507	50.0%
1 – 2 Times/12 Months	24	15.8%	127	26.8%	49	36.6%	80	31.7%	280	27.7%
SEASONS (cumulative totals)										
Summer	123	79.4%	452	94.6%	121	88.3%	242	95.3%	938	91.6%
Winter	118	76.1%	155	32.4%	90	65.7%	147	57.9%	510	49.8%
Spring	136	87.7%	346	72.4%	102	74.5%	213	83.9%	797	77.8%
Autumn	136	87.7%	318	66.5%	95	69.3%	208	81.9%	757	73.9%
EXPERIENCE LEVEL (N = 1011)										
Beginner	8	5.3%	44	9.3%	9	6.7%	13	5.2%	74	7.3%
Intermediate	34	22.4%	197	41.6%	46	34.3%	93	36.9%	370	36.5%
Advanced	73	48.0%	181	38.3%	51	38.1%	100	39.7%	405	40.2%
Expert	37	24.3%	51	10.8%	28	20.9%	46	18.3%	162	16.0%
SOCIAL INTERACTION (N = 1011)*										
Family	25	16.4%	97	20.5%	15	11.2%	48	19.0%	185	18.3%
Friends (group 3 or less)	87	57.2%	199	42.1%	87	64.9%	79	31.3%	452	44.7%
Friends (group 4 or more)	6	3.9%	7	1.5%	4	3.0%	25	9.9%	42	4.2%
Club Members	2	1.3%	18	3.8%	17	12.7%	68	27.0%	105	10.4%
Solo	30	19.7%	144	30.4%	6	4.5%	23	9.1%	203	20.1%
Other (inc. guide service)	2	1.3%	8	1.7%	5	3.7%	9	3.6%	24	2.4%
OVERSEAS PARTICIPATION (N = 1010)										
Yes	17	11.2%	54	11.4%	87	65.4%	94	37.3%	252	25.0%
No	135	88.8%	419	88.6%	46	34.6%	158	62.7%	758	75.0%

*Note: Years of participation and social interaction categories had multiple items collapsed into fewer categories for statistical analysis.

3.3.1 Current Participation in Activity

All participants were asked to indicate how they participated in their primary recreation activity. Eight categories were provided including 'participate in my free time', 'club member', 'club committee member', 'instructor/guide', 'take inexperienced friends', 'read magazines/media', 'employment involves activity', and 'none' (no participation) An 'other' category was also provided. Participants were allowed to select as many types of participation as pertained to their situation (Table 7).

Table 7: Types of Participation by Activity

CURRENT PARTICIPATION (cumulative totals)	Hunter (n = 155)		Angler (n = 478)		Mountaineer (n = 137)		Tramper (n = 254)		Total (N = 1,024)	
	n	%	n	%	n	%	n	%	n	%
Participate in my free time	149	96.1%	458	95.8%	124	90.5%	221	87.0%	952	92.9%
Club member	57	36.8%	114	23.8%	127	92.7%	123	48.4%	421	41.1%
Club 'committee' member	7	4.5%	29	6.1%	24	17.5%	25	9.8%	85	8.3%
Instructor/guide	15	9.7%	20	4.2%	28	20.4%	22	8.7%	85	8.3%
Take inexperienced friends	87	56.1%	174	36.4%	82	59.9%	90	35.4%	433	42.3%
Read magazines/media	110	71.0%	291	60.9%	109	79.6%	120	47.2%	630	61.5%
Employment involves activity	15	9.7%	19	4.0%	12	8.8%	24	9.4%	70	6.8%
None	1	0.6%	0	0.0%	1	0.7%	3	1.2%	5	0.5%
Other	5	3.2%	14	2.9%	3	2.2%	13	5.1%	35	3.4%

The most common type of participation for all respondents was simply participation during their free time (92.9%). Following free time participation, as reported by all respondents, 61.5% read magazines or other media related to their activity, 42.3% take inexperienced friends, and 41.1% hold a club membership. Note that this sample has a relatively high proportion of club members, reflecting the sampling approach, which was predominantly through outdoor clubs, supplemented through other means. Consequently, club membership is very high for mountaineering, moderately high for hunting and tramping, and somewhat lower for angling: for the latter groups, while contacted primarily through Fish and Game New Zealand, that organisation is not a 'club' *per se*.

Participation in the other categories dropped significantly with only 8.3% involved as either a club 'committee' member or as an instructor/guide. Only 6.8% reported employment involving their main recreation activity. Strangely, a few (0.5%) reported no current participation, which might be an interpretation of 'current' participation, particularly since all of the respondents had indicated some activity participation within the past couple of years. Table 8 lists additional activities noted by respondents.

Table 8: Comments for Other Recreation Activity Participation

Hunting	Freshwater Fishing	Mountaineering	Tramping
Farm security	Competitions	Alpine Club rescue team member (2)	Alpine club member (2)
Hunting & fishing	Discussions with friends	Travel overseas	Expedition/explorer
Hunting research	Ex-club member	Take mountaineering courses	Involve family (2)
Meat hunter	Fly tying (2)		Search and rescue volunteer (LandSAR) (2)
Online hunting forum member	Local body councilor		Write trip reports
	Manufacture fishing waders		Soon to be club member
	Consulting with fishing magazine		
	Take kids fishing		
	Fishing columnist (2)		
	Write fishing guidebooks		

Note: Numbers in brackets indicate the number of participants that comment on the same activity.

With regards to type of participation, hunters were most likely to pursue this during free time (96.1%) as well as the most likely for their employment to involve hunting (9.7%). Mountaineers appear to be the most involved in

all other categories, including being a club member (92.7%), being a club committee member (17.5%), being an instructor/guide (20.4%), taking inexperienced friends (59.9%), and reading magazines/media (79.6%).

3.3.2 Frequency and Years of Participation

The majority of all participants (99.1%) participated in their primary activity within the past 2 years. Each participant was asked to report the number of years engaged with their main recreation activity (Figure 7). The number of years of participation required an amalgamation of categories in order to query statistical tests. Three combined categories were '5 years or less', '6 – 10 years', and 'more than 10 years'. Significant differences were found between years of participation and recreation activities ($\chi^2 = 18.633$; $df = 6$; $sig. = .005$). The majority of all participants (74.6%) had 'more than 10 years' of participation with their main recreation activity, followed by 16.0% with '5 years or less' participation and 9.4% had between '6 to 10 years' of participation. The activity with most inexperienced participants, '5 years or less', was the mountaineering category (26.9%). Hunters were the group most strongly represented in the 'more than 10 years' category (80.9%), followed by anglers (76.6%), trampers (73.4%), with mountaineers having a somewhat lower representation in this category (61.9%).

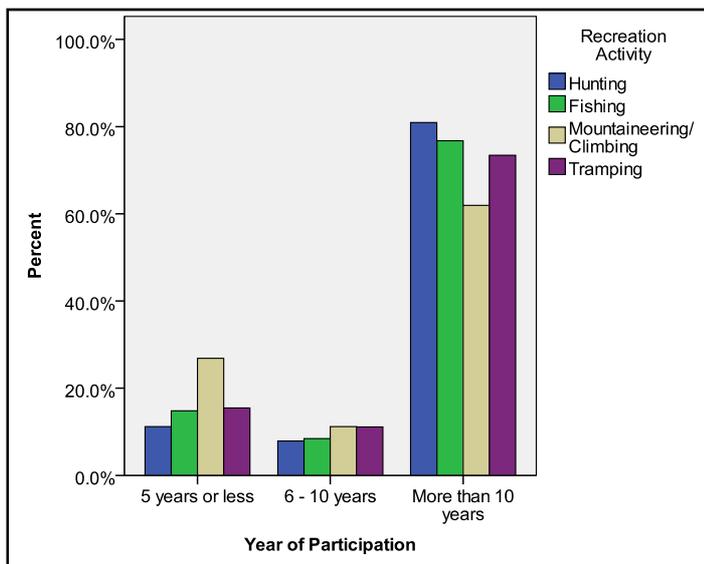


Figure 7: Years of Participation by Activity

3.3.3 Number of Times of Active Participation in Past 12 Months

All participants were asked to estimate how often they had participated in their main recreation activity in the past 12 months. Four categories were provided including 'most days', 'weekly', 'once a month', and '1 – 2 times in 12 months' (Figure 8).

Half of the participants (50.0%) indicated that they recreate once a month, followed by 27.7% recreating 1 – 2 times per year, and 20.6% with weekly participation. Only 1.7% of participants recreate most days. Significant differences were found by recreation activity ($\chi^2 = 22.462$; $df = 9$; $sig. = .008$). Hunters tend to participate more frequently than others with 93 recreating once a month (61.2%) and 34 recreating weekly (22.4%). Mountaineers (36.6%) and trampers (31.7%) recreate the least frequently, with only 1 – 2 trips per year.

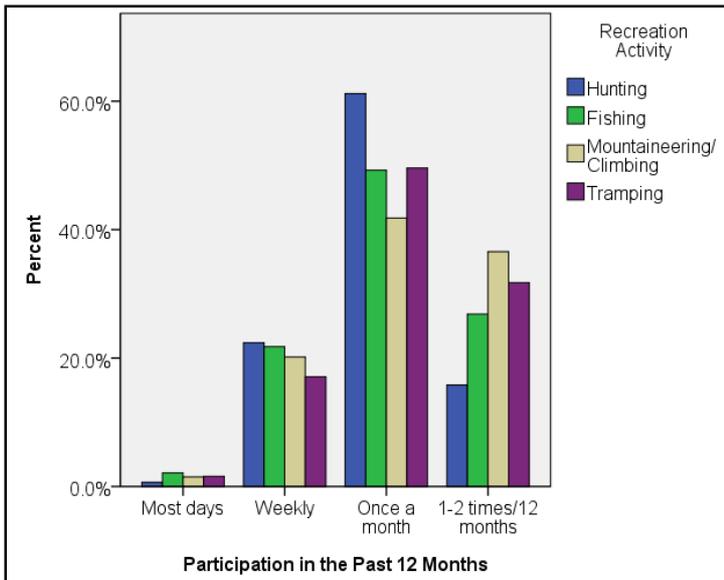


Figure 8: Frequency of Participation in the Past 12 Months by Activity

3.3.4 Seasons of Participation

Participants indicated any or all of the seasons during which they commonly participate in their chosen recreational activity. The most common reported season for recreation participation was summer (91.6%) followed by spring (77.8%), autumn (73.9%) and lastly winter (49.8%) (Figure 9). Hunters were most active in the spring (87.7%) and autumn (87.7%) and least active in winter (76.1%). All other participants, anglers mountaineers and trampers were most active in the summer and least active in winter.

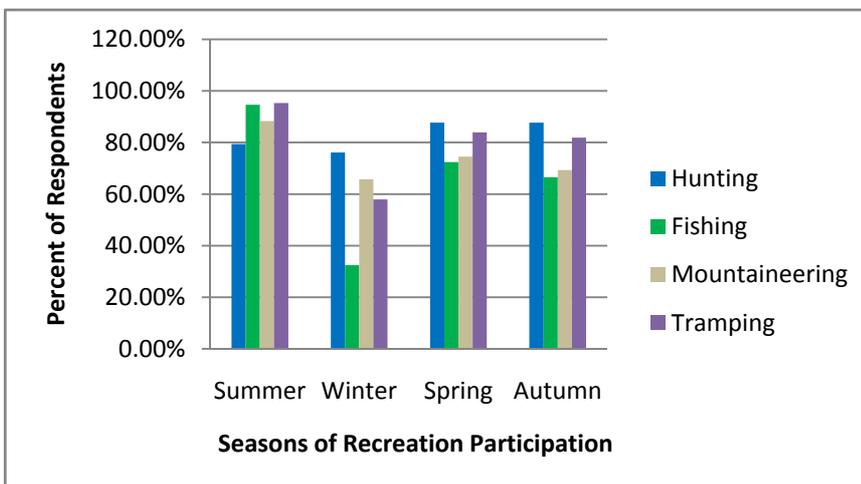


Figure 9: Frequency of Participation per Season by Activity

3.3.5 Level of Experience

The most common level of experience indicated by all participants was 'advanced' (40.2%) which was closely followed by 'intermediate' (36.5%) (Figure 10). Only 16.0% of participants indicated an 'expert' ability (e.g. confident with instructor abilities) and few (7.3%) reported beginner experience levels. Chi-square significant tests suggest that significant differences exist between the recreation activities ($\chi^2 = 37.366$; $df = 9$; $sig. = .000$). Hunters were most likely to self-report higher levels of experience (48.0% advanced and 24.3% expert levels), than any other recreation activity participant. Intermediate (41.6%) and beginner (9.3%) experience levels tend to be freshwater anglers.

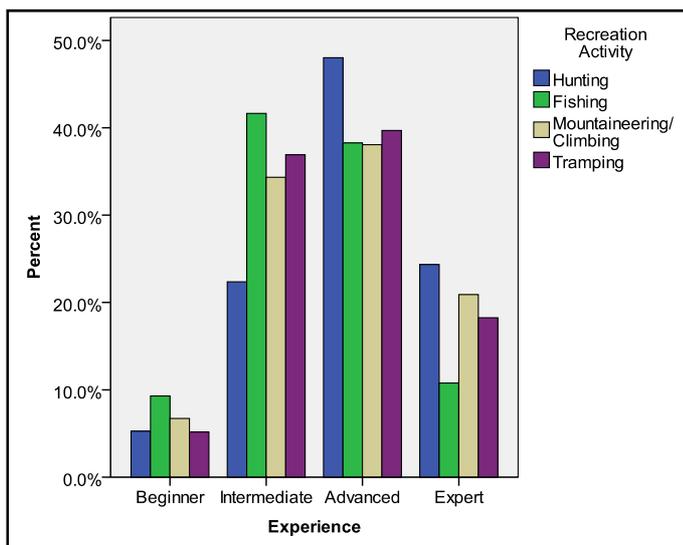


Figure 10: Experience Level by Activity

3.3.6 Social Interaction during Recreation

All participants were asked to indicate with whom they mainly recreate. Seven categories were provided including 'family', 'friends (groups of 3 or less)', 'friends (groups of 4 or more)', 'guided service', 'club members', 'solo', and 'other'. As responses to 'guided service' were minimal (0.4%) this category was combined with 'other'. The majority of all participants (44.7%) participate in the main recreation activity with friends (groups of 3 or less), followed by solo (20.1%), family (18.3%), club members (10.4%), friends (groups of 4 or more) and lastly, others (2.4%) (Figure 11). Significant difference were found between recreation activities ($\chi^2 = 222.584$; $df = 15$; $sig. = .000$).

Participants who recreate primarily with family tend to be freshwater anglers (20.5%), whereas hunters (57.2%) and mountaineers (64.9%) usually recreated with small groups of friends (3 or less). Trampers (27%) were most likely to recreate with larger groups of friends (4 or more) as well as with club members (27%). Finally, participants most likely to recreate solo were freshwater anglers (30.4%) and hunters (19.7%). Responses in the 'other' category included 'all of the above' (although often omitting 'guided service'), 'clients', 'students', and 'partner or spouse'.

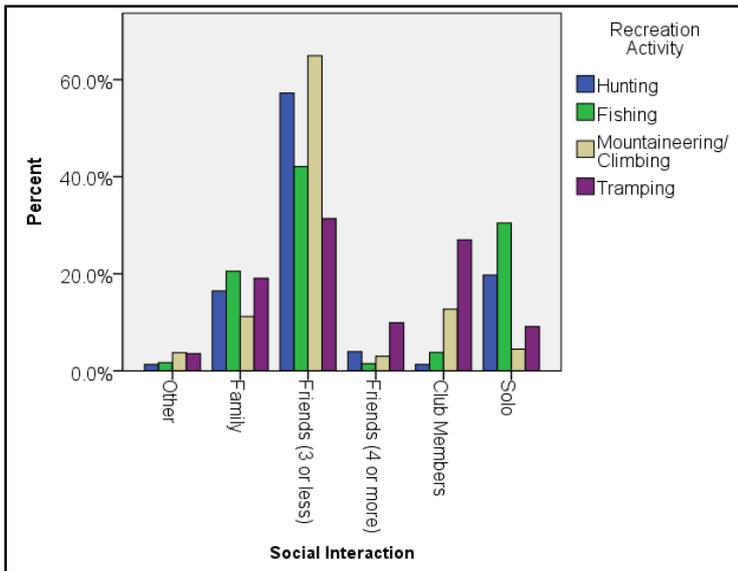


Figure 11: Social Interaction per Activity

3.3.7 Overseas Travel to Recreate

One quarter of participants travelled overseas to recreate in their specific activity (Figure 12). Strong significant differences between activities were evident ($\chi^2 = 198.472$; $df = 3$; $sig. = .000$). Whilst few hunters (11.2%) and freshwater anglers (11.4%) travelled overseas to recreate, a much higher number of mountaineers (65.4%) and trampers (37.3%) had done so.

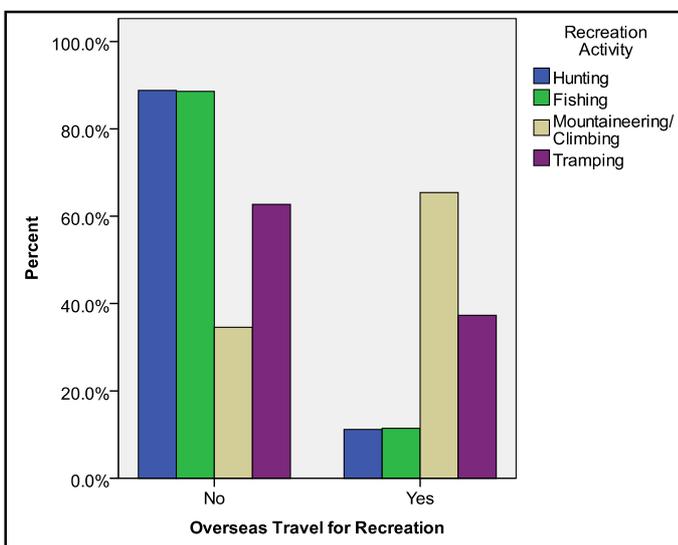


Figure 12: Overseas Travel for Recreation Purposes by Activity

3.3.7 Recreation Activities other than Primary Activity

Respondents were asked about other activities they participated in (from a list provided). The most common alternative activity was camping (63.6%) followed by salt water fishing (43.9%) and tramping (41.6%) (Table 9).

Table 9: Recreation Activities Other than the Primary Activity

Other type of activity (cumulative totals)	Hunter (n = 155)		Angler (n = 478)		Mountaineer (n = 137)		Tramper (n = 254)		Total (N = 1,024)	
	n	%	n	%	n	%	n	%	n	%
Hunting	-----	-----	171	35.8%	16	11.7%	32	12.6%	219	21.3%
Freshwater fishing	0	0.0%	-----	-----	16	11.7%	65	25.6%	81	7.9%
Mountaineering	21	13.5%	20	4.2%	-----	-----	88	34.6%	129	12.6%
Tramping	81	52.3%	225	47.1%	120	87.6%	-----	-----	426	41.6%
Water sport	46	29.7%	92	19.2%	46	33.6%	86	33.9%	270	26.4%
Ski/snowboarding	34	21.9%	85	17.8%	83	60.6%	105	41.3%	307	29.9%
Camping	111	71.6%	292	61.1%	81	59.1%	167	65.7%	651	63.6%
Motor boating/yachting	59	38.1%	129	27.0%	11	8.0%	42	16.5%	241	23.5%
Diving	54	34.8%	74	15.5%	21	15.3%	30	11.8%	179	17.5%
Surfing	10	6.5%	26	5.4%	20	14.6%	15	5.9%	71	6.9%
Salt water fishing	110	71.0%	279	58.4%	9	6.6%	52	20.5%	450	43.9%
Mountain biking	54	34.8%	144	30.1%	84	61.3%	128	50.4%	410	40.0%
Off-road/4-wheel driving	70	45.2%	123	25.7%	15	10.9%	29	11.4%	237	23.1%
I do not participate.	0	0.0%	20	4.2%	2	1.5%	6	2.4%	28	2.7%
Other	8	5.2%	38	7.9%	12	8.8%	47	18.5%	105	10.3%

The most common alternative activity is camping for hunters (71.6%), anglers (61.1%) and trampers (65.7%); whereas tramping is the most common alternative for mountaineers (87.6%). Mountaineers often access their climbing routes by tramping, which would support the high percentage of mountaineers reporting tramping activities. Salt water fishing was also extremely popular amongst hunters (71.0%) and anglers (58.4%). Table 10 lists additional activities that the participants engaged in, other than their primary activity.

Table 10: Other Recreation Activities Participants Participated

Hunting	Freshwater Fishing	Mountaineering	Tramping
Cycling	Eeling	Motorsport (2)	Biking
Running	Body surfing	Orienteering	Botanising
Horse riding	Bowls	Painting/photo	Caving
Kayaking	Flying	Road bike (2)	Climbing (11)
Pest control	Football	Rock climbing	Cycling (7)
Casual shepherd	Game bird hunt	Running (2)	Walking
Spearfishing	Golf	Saltwater flyfish	Hockey
(marine)	Gun dog trialing	Sea fishing	Running (8)
Freediving	Horse riding	Swimming	Multisport
Whitebaiting	Hunting	Snorkeling (2)	Photography (3)
Wildlife	Kite bugging	Walking (4)	Cricket
photography	Lawn bowls	Walking dog	Quad bike
	Motorcaravan (2)	Whitebaiting (2)	Gardening
	Motorcycling	Wild food gathering	Snorkelling
			Swimming
			Tennis (3)
			Windsurfing
			Waka ama

Note: Numbers in brackets indicate the number of participants that comment on the same activity.

3.4 Hunting

3.4.1 Type of Hunting

Hunters were asked to indicate all types of hunting in which they participated. Six categories were provided: 'big game', 'water fowl', 'other bird', 'pig', and 'small game'. A category for 'other' was also provided. Hunters tend to hunt for big game (86.5%) followed by small game (76.1%), pig (56.1%), waterfowl (40.6%), and other bird species (24.5%). Only 9% selected 'other' types of hunting.

All hunting participants were asked to select their *main type of hunting* activity. Six categories, based on animal type and size, were provided: 'big game', 'waterfowl', 'other bird', 'pig', 'small game', and 'other'. The main hunting activity was 'big game' hunting (74.3%). To a lesser extent, 11.2% of hunters mainly shoot 'waterfowl', 7.9% 'pig' hunt, and only 5.9% primarily hunt 'small game'.

3.4.2 Typical Hunting Trip Description

Five categories were provided for hunters to indicate their 'typical' hunting trip. . In rank order, most participants indicated their hunting destination as 'hunting in backcountry sites' (62.5%), 'day trips to local areas' (30.3%), with only 3.3% indicating that they took only 'an annual hunting trip'. No respondents participated in guided hunting trips. 'Other' typical hunting trips noted by respondents include 'weekend trips' (2), 'all of the above' (2), 'semi-regular trips to huts, camping out, etc.' (1), and 'hunting private properties over two to three days' (1).

3.5 Freshwater Fishing

3.5.1 Type of Fishing

Freshwater anglers were asked to identify all the types of fishing they participate in. Three categories were provided including 'flyfishing', 'lure fishing', and 'bait fishing'. A category for 'other' was also provided. Freshwater anglers mostly flyfish (79.4%) followed by lure fishing (74.5%) and lastly bait fishing (19.2%). Other types include 'coarse fishing' (2), 'jigging in lakes' (1), and 'whitebaiting'.

Four categories were provided for fishing participants to indicate their *main type of freshwater fishing*. The vast majority of participants (58.5%) indicated fly fishing, followed by lure fishing (39.7%) and bait fishing (1.3%). Of participants that indicated 'other' fishing activities, one angler indicated 'coarse fishing'.

3.5.2 Typical Fishing Trip Description

All fishing participants were asked to best describe their typical freshwater fishing trip. Five options were provided. Most participants (59.4%) engaged in 'day trips to local areas'. The next most popular type of trip, as indicated by 17.8% of participants, were 'overnight trips (with camping)', closely followed with 16.1% 'fishing in backcountry areas'. Only 4.4% of fishing participants took only 'an annual fishing trip'. Ten participants (2.3%) noted 'other' types of fishing trips. These responses included trips such as 'all of them', 'day trips and overnight and backcountry', 'every 2 years with family', 'motor home to widespread waters', 'regular trips away', and 'overnight at our bach'.

3.5.3 Fishing Trip Location

All freshwater anglers were asked to indicate where they normally freshwater fish. Anglers were provided five categories, and one other category, and allowed to list as many locations as were normally frequented for fishing use. The categories were 'shore-based lake', 'shore-based river', 'backcountry sites', 'boat-based lake', and 'boat-based river'. Most freshwater anglers reported engagement with 'shore-based river' fishing (36.2%), followed by shore-based lake fishing (20.3%), fishing backcountry sites (18.2%), boat-based lake fishing (11.4%) and boat-based river fishing (3.2%). Four responses were given for other types of fishing trips including 'all of the above', 'float tube (on lakes)', and 'raft/heli-access'.

3.6 Mountaineering/Climbing

3.6.1 Type of Mountaineering Trip

Mountaineers were asked to identify the types of mountaineering trips they take. Three categories were provided including 'day trips to local climbing areas', 'overnight trips to backcountry areas', and 'an annual mountaineering/climbing trip'. A category for 'other' was also provided. Mountaineers mostly take overnight trips to backcountry areas (78.1%) followed by day trips to local areas (70.8%) and lastly an annual trip (45.2%). Approximately 11.7% selected 'other' types of trips. Other types include 'three to four day trips in NZ national parks', 'climb in North Island, annual trip to South Island', 'climb at local indoor wall' (2), 'club trips', 'go offshore', 'only rock climb, not mountaineer', 'multi-day trips', and 'overseas trips' (7).

Four categories were provided for mountaineering participants to indicate their *main type of mountaineering* trip. Most participants (48.5%) indicated 'overnight trips to backcountry areas', followed closely by 37.3% going on 'day trips to local climbing areas'. Very few (6.7%) took only 'an annual mountaineering trip'. Additional, 'other', responses to this question were given by 7.5% of participants. In summary, three participants noted 'weekend trips', three participants mentioned 'all of the above' (based on the categories listed), and one participant each mentioned 'indoor climbing', 'a few times a year', 'overseas expeditions', and 'trips to the Southern Alps'.

3.7 Tramping

3.7.1 Type of Tramping Trip

Trampers were asked to identify the types of tramping trips they take. Six categories were provided including 'day trips to local easy/walks tracks', 'day trips to local hard/difficult tracks', 'an annual tramping trip', 'overnight trips to backcountry areas', 'overnight trips to front country areas', and 'multiple-day backcountry trips'. A category for 'other' was also provided. Trampers mostly take day trips to local and easy tracks (80.3%) followed by day trips to hard tracks (76.7%), overnight trips to backcountry areas (68.9), multi-day backcountry trips (62.2%), overnight trips to front country areas (39.3%) and lastly an annual trip (27.1%). Approximately 3.5% selected 'other' types of trips, including 'all of the above', 'climbing/skiing/hunting', 'hunting', 'international', 'multisports including tramping', 'off trail', 'pack floating', 'track running', and 'short walks with kids'.

Tramping participants were provided seven categories to select a description of their *main type of tramping* trip. Four of the seven categories were very close in rank, with 25% of trampers selecting 'day trips to local hard/difficult tracks', 24.2% indicating 'overnight trips to backcountry areas', 23% participating via 'day trips to local easy walks/tracks', and finally 19.8% selecting multi-day backcountry trips'. Few trampers (4.4%) selected

'overnight trips to front country areas'. Only 2.4% of trampers indicated 'an annual tramping trip' and 1.6% selected 'other'. Other responses included three participants who indicated 'all of the above' or more than one option and one response detailing that when tramping 'each trip takes three weeks or more'.

3.8 Spending Estimates for Recreation Participation

Participants were asked: "On average, how much did you spend per year on hunting activities"? This question was open-ended, thus participants were able to provide individual estimates for their prospective activity. Some participants provided a range of expenses (e.g. between \$300 and \$400 per year); whereas other participants provided one estimated amount. Figures 13 through 18 representing this data take this into account by showing lower and upper estimates of expenditure.

The majority of hunters spent between \$1,000 and \$2,999 per year for hunting activities (Figure 13).

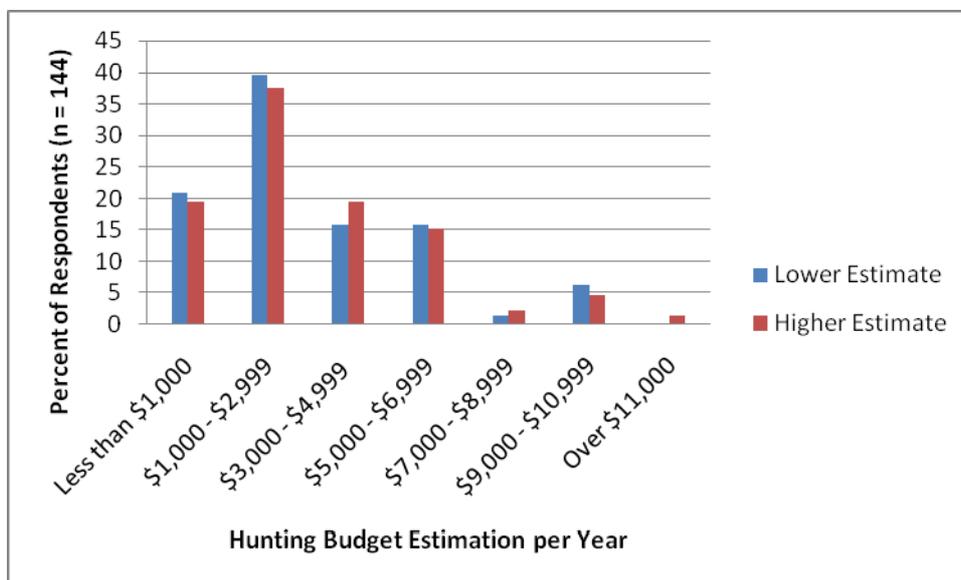


Figure 13: Hunting Budget per Annum

Some participants (n = 8) indicated they were unsure and did not specify an amount. Some of the comments, in addition to monetary responses, include 'bloody thousands', 'not enough', and 'unknown but I do it cheap'.

The majority of freshwater anglers spent less on average than hunters per year, usually spending less than \$1,000 dollars per year on fishing activities (Figure 14).

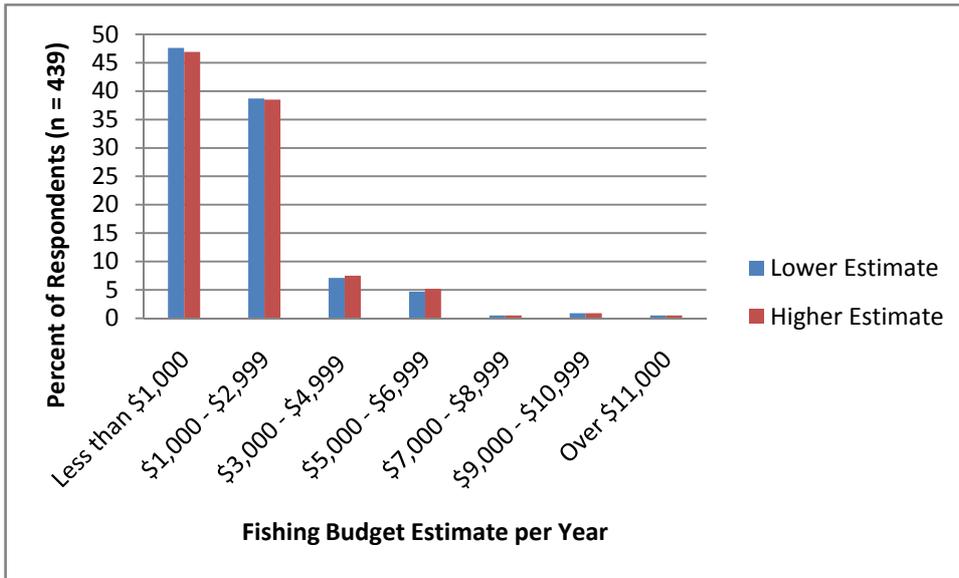


Figure 14: Fishing Budget per Annum

Some of the comments, in addition to monetary responses, include “heaps but it varies”, ‘lots’, ‘no idea’, ‘several thousand dollars’, ‘tens of thousands’, and ‘too much (wife says)’.

Most mountaineers spent between \$1,000 and \$2,999 per year on mountaineering activities (Figure 15).

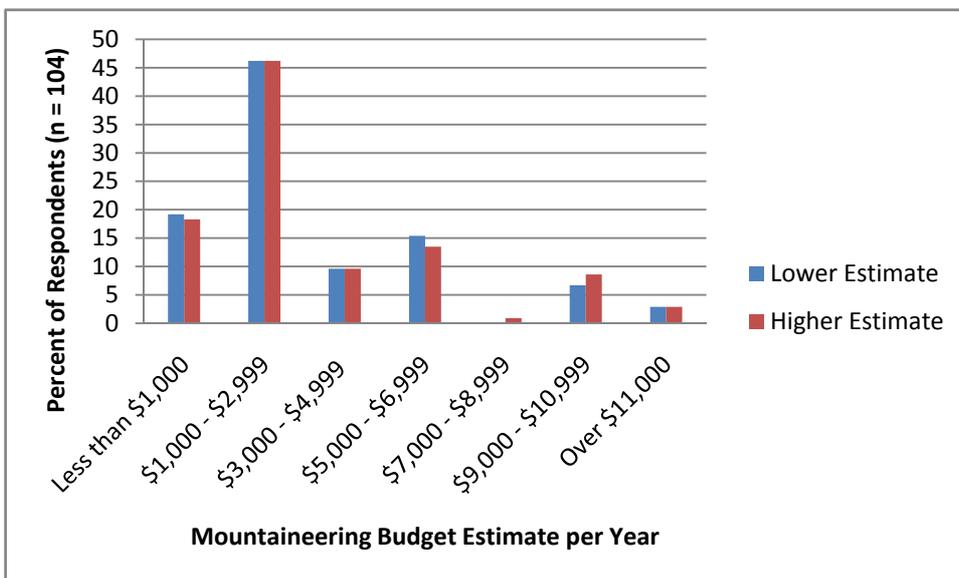


Figure 15: Mountaineering Budget per Annum

Example comments, in addition to monetary responses, include ‘a lot, just started’, ‘absolutely no idea’, ‘I don’t keep a record’, and ‘prefer not to know’.

The majority of trampers either spent less than \$1,000 or between \$1,000 and \$2,999 on tramping activities per year (Figure 16).

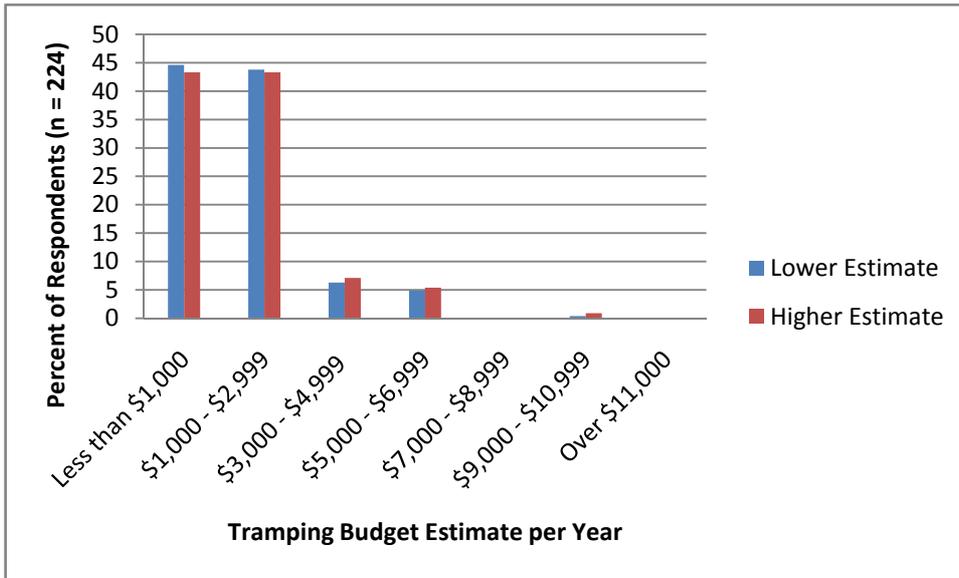


Figure 16: Tramping Budget per Annum

3.8.1 Comparing Spending between Activities

Figure 17 and Figure 18 illustrate the higher and lower estimates of spending over the past year by hunters, anglers, mountaineers and trampers. Most recreationists spend between \$1,000 and \$2,999 per year (as both a high and low estimate). Fishing and tramping, in general, have lower budgets of under \$1,000 spent per year. On the contrary, mountaineers and hunters are likely to spend more, such as \$3,000 – \$4,999 or \$5,000 - \$6,999 per year.

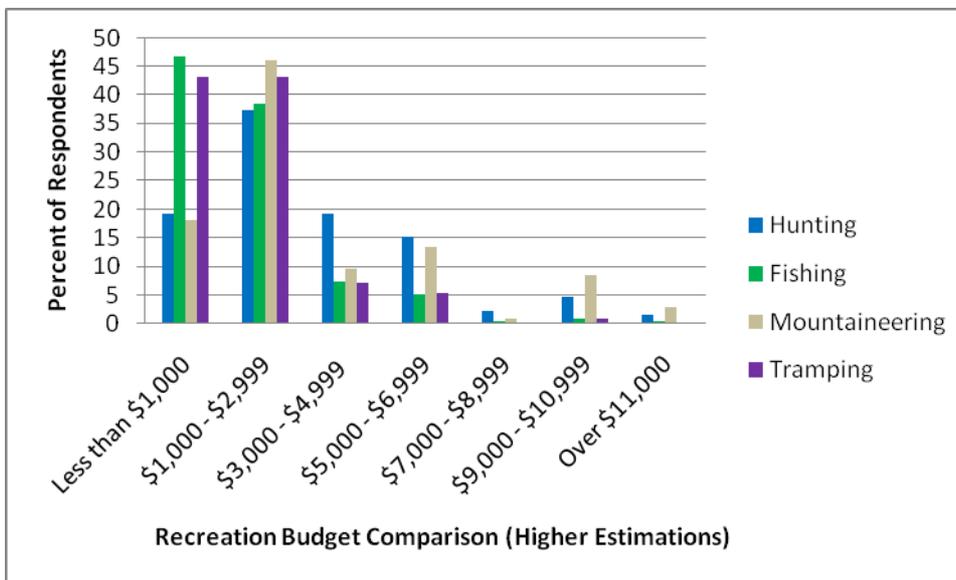


Figure 17: Comparison of Spending between Activities per Year: Higher Estimation

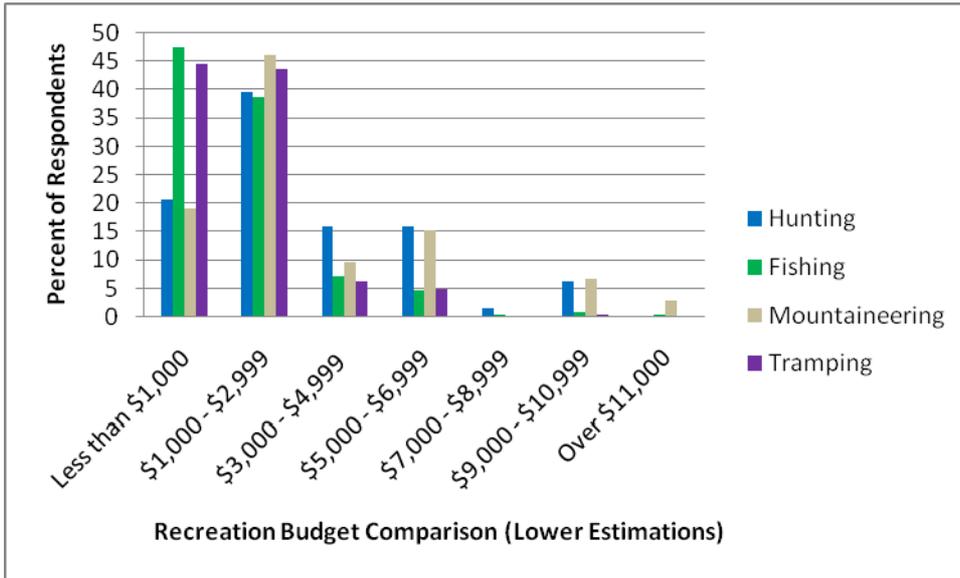


Figure 18: Comparison of Spending between Activities per Year: Lower Estimation

SECTION 4: MOTIVATIONS, CONSTRAINTS, AND COMMITMENT

4.1 Motivations

Participants were asked to indicate how important 15 different motivational factors were for participating in their primary activity. The motivation scale includes five dimensions: escape, nature, bonding, learning and social elements. The scale used to determine importance ranked from 1 'highly unimportant' to 5 'highly important'. Table 11 reports the total percentages ranked by all participants. The most important motivations were for escape and nature, whereas bonding (with family and current friends) was of medium importance, and to a lesser extent learning and social reasons (engage with new people) were found to be of importance.

Table 11: Motivations Scale for Recreation Participation: All Participant Rankings

Dimensions		Highly Unimportant				Highly Important
		1	2	3	4	5
Escape						
E ₁	To be away from the everyday routine (n = 985)	4.7%	8.3%	17.7%	32.8%	36.5%
E ₂	To get away from crowded areas (n = 985)	1.8%	3.6%	10.3%	29.5%	54.8%
E ₃	To experience the solitude/privacy (n = 985)	2.4%	3.6%	13.4%	33.1%	47.5%
Nature						
N ₁	To be in a natural setting (n = 985)	0.7%	1.1%	5.5%	25.7%	67%
N ₂	To enjoy the natural scenery (n = 985)	0.7%	0.6%	4.5%	27.6%	66.6%
N ₃	To enjoy the tranquillity of the area (n = 985)	0.8%	0.4%	6.1%	29.2%	63.5%
Bonding						
B ₁	To share quality time with family and friends (n = 985)	4.8%	9.6%	22.6%	35.9%	27%
B ₂	To do something with family and friends (n = 985)	5.1%	10.1%	22.6%	37.8%	24.5%
B ₃	To bring family/friends closer together (n = 985)	8.1%	16.3%	27.4%	27.8%	20.3%
Learning						
L ₁	To develop my knowledge of the area (n = 984)	3.3%	9.6%	27.6%	40.4%	19.1%
L ₂	To learn more about nature (n = 984)	3.9%	13%	32.5%	34.8%	15.9%
L ₃	To learn about the natural history or ecology of the area (n = 984)	5.4%	17.7%	31.6%	32.8%	12.5%
Social						
S ₁	To be with people who have similar interests (n = 984)	6.3%	14.3%	26.7%	34.2%	18.4%
S ₂	To talk to new and varied people (n = 984)	10.6%	20.5%	31.2%	28.4%	9.3%
S ₃	To meet new participants (n = 984)	13.2%	24.4%	32.4%	22.7%	7.5%

Table 12 presents the means, standard deviations, ANOVA (F scores) and significance for each item for each activity. There were significant differences for the importance of motivations among the four different activities. Significant differences were found for 12 of the 15 motivational items. The only three items for which there was no significance difference between activities were: 'to be away from the everyday routine'; 'to be in a natural setting'; and 'to bring family/friends closer together'.

When the items are considered within five subscales (Escape, Nature, Bonding, Learning, Social) motivations associated with learning and socialising were found to have the most variation between recreation activities..

Recreation as a means to escape and get away from crowded areas as well as to experience solitude was ranked as being of greater importance overall by hunters, followed by anglers, then mountaineers and trampers.

Correspondingly, mean scores for motivational items within the Nature subscale also indicate that hunters rate these items (e.g. enjoying the scenery and tranquillity of an area) higher than do anglers, trampers and mountaineers..

Table 12: Motivations Scale for Recreation Participation: Summary of Statistics

	Hunting		Fishing		Mountaineering		Tramping		ANOVA: All Activities	
	Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.	F	Sig.
Escape										
E ₁	3.80	1.297	3.90	1.119	3.87	.992	3.91	1.121	.325	.808
E ₂	4.57	.786	4.32	.915	4.24	.912	4.20	1.002	5.498	.001
E ₃	4.40	.965	4.28	.881	4.10	.924	3.97	1.089	8.354	.000
Nature										
N ₁	4.65	.674	4.60	.626	4.47	.815	4.51	.817	2.359	.070
N ₂	4.69	.601	4.61	.612	4.47	.765	4.55	.764	2.834	.037
N ₃	4.66	.671	4.58	.616	4.36	.794	4.49	.797	5.167	.002
Bonding										
B ₁	4.06	.971	3.55	1.179	3.76	1.067	3.76	1.017	8.551	.000
B ₂	3.91	1.010	3.53	1.170	3.69	1.037	3.75	1.034	5.462	.001
B ₃	3.55	1.167	3.28	1.259	3.28	1.140	3.43	1.144	2.450	.062
Learning										
L ₁	3.98	.952	3.48	1.011	3.63	1.049	3.68	.933	10.217	.000
L ₂	3.85	.912	3.42	1.029	3.17	1.101	3.44	.995	11.304	.000
L ₃	3.45	1.041	3.26	1.063	3.07	1.111	3.37	1.045	3.633	.013
Social										
S ₁	3.64	1.125	3.19	1.128	3.77	1.067	3.61	1.081	14.946	.000
S ₂	3.08	1.154	2.90	1.133	3.22	1.116	3.24	1.093	6.081	.000
S ₃	2.84	1.176	2.74	1.132	3.05	1.109	3.03	1.089	4.720	.003

Bonding items focused on understanding the importance of maintaining and building upon existing relationships. Two items were found to be significant. For both items, hunters, followed by trampers, mountaineers, then anglers, were most motivated to 'do something with family and friends' and 'to bring family/and friends closer'. This motivation appears logical, particularly when taking into consideration the typical 'social interaction' for each activity (section 3.3.6). Hunters, trampers and mountaineers are most likely to recreate in small groups (3 or fewer), trampers often recreate with other club members, whereas anglers are likely to fish alone.

Learning items - developing knowledge about the area, learning about nature and learning about an area's history – were found to be most important for hunters. The most important learning item was 'learning about nature', as indicated by hunters, followed by trampers, mountaineers and anglers.

The final motivational subscale includes social items which identify social desires, such as being around people (but not necessarily to 'bond' with them) or to meet/make new friends. Mountaineers followed by trampers were the most likely to recreate for social purposes, whereas anglers, and then hunters, were the less likely to identify with these motivational items.

4.2 Constraints

Twelve individual constraint factors were categorised into four subscales: economic, skills, lifestyle and environment. Participants were asked to indicate if any of the constraint factors influenced their participation,

ranking on a scale from 1 – ‘not important’ to 5 – ‘extremely important’. Table 13 presents the total percentages for all rankings as indicated by all participants. The most influential constraints were represented in the lifestyle and natural environment dimensions, with a number of participants indicating these items were ‘extremely important’. Skill items appear to be the least important constraint followed by economic constraints. Two additional activity specific items, the lack of quality and lack of quantity of target species, were included specifically for hunters and anglers. Hunters and anglers were given the opportunity to indicate ‘not applicable’ if they felt this question did not apply to them.

Table 13: Constraints Scale for Recreation Participation: All Participant Rankings

Dimensions		Not Important				Extremely Important	
		1	2	3	4	5	
Economic							
E ₁	The cost of transport is too high. (n = 978)	31.9%	27.3%	22.9%	14.4%	3.5%	
E ₂	The cost of equipment is too high. (n = 978)	32.4%	32.9%	22.7%	10.1%	1.8%	
Skill							
S ₁	I lack necessary experience. (n = 977)	62.5%	21.4%	10.2%	5.2%	0.6%	
S ₂	I am not improving my skills. (n = 977)	61.9%	24.0%	10.5%	3.1%	0.5%	
S ₃	I am afraid of being hurt. (n = 978)	70.2%	18.9%	7.5%	3.2%	0.2%	
Lifestyle							
L ₁	I don't have people to go with. (n = 978)	40.9%	26.3%	19.2%	11.3%	2.2%	
L ₂	I don't have time/I was too busy. (n = 978)	14.5%	13.3%	24.3%	32.5%	15.3%	
L ₃	I participate in alternative activities. (n = 977)	44.9%	21.1%	21.3%	11.1%	1.6%	
L ₄	I (or family members) are in poor health. (n = 978)	61.3%	17.2%	10.3%	7.2%	4.0%	
Environment							
N ₁	Recreation area is too crowded. (n = 977)	33.6%	24.2%	22.5%	14.2%	5.5%	
N ₂	Quality of the environment is deficient. (n = 977)	37.2%	24.8%	18.0%	12.7%	7.4%	
N ₃	Access to the land/environmental resource no longer available. (n = 977)	29.8%	20.6%	17.1%	15.0%	17.5%	
Activity Specific Factors (hunting and angling only)		1	2	3	4	5	N/A
A ₁	Quality of target species lacking. (n = 608)	23.4%	20.6%	19.1%	17.4%	13.0%	6.6%
A ₂	Quantity of target species lacking. (n = 608)	16.3%	17.3%	20.9%	20.9%	18.9%	5.8%

Table 14 presents individual statistics by activity type for each of the constraint items. Not including the activity specific subscale, all but one item were found to have significant variation between activities. The one exception that was not found to be significant was an economic constraint, ‘the cost of equipment is too high’.

For the ‘cost of transport being too high’, hunters and anglers were more likely to find this to be a constraint than mountaineers or trampers. Within the skills subscale, overall, mountaineers indicated that they were the most constrained by the lack of appropriate skills, while hunters felt the least constrained.

The lifestyle subscale focused on understanding some of the social and personal constraints that may affect recreation participation. Of the four lifestyle items, the one that causes the most concern is lack of time/being too busy. Mountaineers were most likely to be constrained by all lifestyle items, but in particular by lack of time. For the other lifestyle constraints – not having people to go with, participate in other activities and poor health – in general, mountaineers and trampers were more constrained than hunters or anglers. Finally, based on additional

open-ended comments, a fifth constraint was applicable in the Lifestyle subscale relating to family commitments and/or having small children in the family (Appendix 1). Subsequently, this issue was further explored in the qualitative interviews.

Table 14: Constraints Scale for Recreation Participation: Summary of Statistics

	Hunting		Fishing		Mountaineering		Tramping		ANOVA: All Activities	
	Mean	S. D.	Mean	S. D.	Mean	S. D.	Mean	S. D.	F	Sig.
Economic										
E ₁	2.36	1.203	2.41	1.168	2.27	1.110	2.07	1.118	4.932	.002
E ₂	2.18	1.007	2.19	1.052	2.30	1.078	2.03	1.040	2.112	.097
Skill										
S ₁	1.48	0.923	1.58	.900	1.78	1.005	1.62	.869	2.691	.045
S ₂	1.32	.679	1.64	.890	1.70	.942	1.50	.734	7.152	.000
S ₃	1.46	.790	1.32	.690	1.87	1.016	1.43	.726	17.116	.000
Lifestyle										
L ₁	1.91	.989	1.92	1.062	2.76	1.194	2.13	1.131	20.998	.000
L ₂	3.28	1.185	3.16	1.290	3.64	1.227	3.03	1.255	6.966	.000
L ₃	1.81	.991	1.96	1.109	2.26	1.165	2.19	1.151	6.203	.000
L ₄	1.91	1.259	1.57	.997	2.04	1.310	1.84	1.177	8.028	.000
Environment										
N ₁	2.51	1.264	2.56	1.240	2.02	1.114	1.99	1.137	15.839	.000
N ₂	2.24	1.295	2.65	1.323	1.77	1.025	1.89	1.094	29.630	.000
N ₃	3.26	1.485	3.00	1.454	2.19	1.306	2.05	1.246	38.533	.000
Activity Specific Factors (hunting and angling only, n = 633)										
A ₁	3.01	.127	2.94	.073	---	---	---	---	.188	.664
A ₂	3.55	.121	3.17	.070	---	---	---	---	7.517	.006

Finally, environmental constraints were some of the more common concerns. Overall, hunters and anglers were more constrained by environmental issues than mountaineers or trampers. The greatest concern was with regards to access, mostly noted by hunters, followed by anglers, mountaineers and trampers. Hunters were most concerned with the recreation area being too crowded, followed by anglers, mountaineers and trampers; whereas anglers were more concerned with being constrained by the quality of the environment, followed by hunters, trampers and mountaineers. Based on open-ended survey comments from anglers, for example, pollution and Didymo are of concern, whereas hunters reported concern with areas being affected by 1080 poisoning (see Appendix 1). For the activity specific factors, hunters were found to be more constrained by the quantity of target species than anglers. The quality of target species was found to be of more moderate importance for both hunters and anglers.

4.3 Sport Commitment Model

All participants were asked to rank the importance of sixteen sport commitment items. This model is a modified, shortened version of the Sport Commitment Model (Alexandris *et al* 2002; Scanlan *et al* 1993), comprising four subscales: commitment; enjoyment, involvement opportunities; and social support. Internal consistency was calculated for each of the subscales using Cronbach's Alpha, returning high reliability scores (Alpha >0.75) (Table 18). This suggests that the subscales may be reliable measures of the constructs that they set out to

assess, and are applicable in a recreational context (they have previously been predominantly used within sporting contexts).

Table 15: Modified Sport Commitment Model: All Participant Rankings

Dimensions (n = 998)		Not				Extremely
		Important	1	2	3	4
		1	2	3	4	5
Commitment Scale						
C ₁	How dedicated are you to your main activity?	0.8%	7.4%	26.7%	34.5%	30.7%
C ₂	How determined are you to continue participation?	0.5%	2.8%	11.1%	30.4%	55.2%
C ₃	How hard would it be to quit your main activity	3.1%	6.9%	13.1%	28.0%	48.9%
C ₄	How proud are you to be a participant of your main activity?	2.2%	3.6%	15.4%	32.8%	46.0%
Enjoyment Scale						
E ₁	Do you enjoy your main recreation activity?	0.3%	0.2%	3.3%	27.1%	69.1%
E ₂	Are you happy when you are participating?	0.3%	0.4%	2.6%	29.9%	66.8%
E ₃	Do you have fun when you are participating?	0.3%	0.6%	4.7%	34.4%	60.0%
E ₄	Are you satisfied with your choice to participate?	0.3%	0.7%	3.0%	29.0%	67.0%
Involvement Opportunities Scale						
I ₁	Would you miss being considered a participant if you stopped?	6.2%	8.1%	13.0%	33.3%	39.4%
I ₂	Would you miss your friends if you quit?	11.5%	11.5%	23.3%	30.2%	23.4%
I ₃	Would you miss the good times you had if you discontinued?	1.9%	3.1%	9.4%	37.1%	48.5%
I ₄	Would you miss the unique experiences of participation?	0.6%	2.1%	5.4%	31.4%	60.5%
Social Support Scale (Modified)		(Disagree)	2	3	4	(Agree)
S ₁	People say things to make me feel good about participation.	12.1%	20.3%	37.3%	20.1%	10.1%
S ₂	Other people encourage me to participate.	8.3%	17.6%	34.6%	28.7%	10.8%
S ₃	Significant others say things to keep me from participating.	12.3%	20.0%	32.8%	23.8%	11.0%
S ₄	I feel that I receive support from my significant others.	5.4%	14.1%	26.4%	35.2%	18.9%

Table 16: Commitment Model: Summary of Statistics

Dimensions (n = 998)		Mean	Std. Deviation	Skewness	Kurtosis
Commitment Scale					
C ₁	How dedicated are you to your main activity?	3.87	.962	-0.451	-0.540
C ₂	How determined are you to continue participation?	4.37	.827	-1.289	1.320
C ₃	How hard would it be to quit your main activity	4.13	1.078	-1.182	0.631
C ₄	How proud are you to be a participant of your main activity?	4.17	.964	-1.174	1.094
Enjoyment Scale					
E ₁	Do you enjoy your main recreation activity?	4.65	.586	-1.853	4.922
E ₂	Are you happy when you are participating?	4.63	.589	-1.794	4.943
E ₃	Do you have fun when you are participating?	4.53	.645	-1.458	2.997
E ₄	Are you satisfied with your choice to participate?	4.62	.612	-1.860	4.914
Involvement Opportunities Scale					
I ₁	Would you miss being considered a participant if you stopped?	3.91	1.184	-1.030	0.174
I ₂	Would you miss your friends if you quit?	3.42	1.279	-0.489	-0.775
I ₃	Would you miss the good times you had if you discontinued?	4.27	.895	-1.459	2.305
I ₄	Would you miss the unique experiences of participation?	4.49	.746	-1.731	3.576
Social Support Scale (Modified)					
S ₁	People say things to make me feel good about participation.	2.96	1.138	0.001	-0.634
S ₂	Other people encourage me to participate.	3.16	1.097	-0.207	-0.568
S ₃	Significant others say things to keep me from participating.	3.01	1.172	-0.072	-0.780
S ₄	I feel that I receive support from my significant others.	3.48	1.112	-0.439	-0.522

A five-point Likert-style scale allowed participants to indicate their level of agreement with each of the commitment items, ranging from not important (1) to extremely important (5). The vast majority of participants indicated that their commitment, enjoyment and involvement opportunities were very to extremely important (4 – 5), whereas social support was slightly less important (Table 15).

Means were calculated for each subscale: commitment, enjoyment, involvement opportunities and social support. Mean scores were very high for all items on the enjoyment subscale, moderately high on the commitment and involvement opportunities subscale, but moderate for the social support subscale. This is consistent with previous applications of the subscale (e.g. Casper et al 2007) that suggest that enjoyment aspects are particularly important for participants, and social support for involvement is less important.

Skewness, and kurtosis for each item was generated, indicating that some of the items in the scales were skewed or kurtotic, indicating non-normality (Table 16). This too is consistent with previous Sport Commitment Model research (Scanlan et al 1993; Casper et al 2007). Note that the Structural Equation Modelling outlined below addresses the non-normality of the data.

Following the test of reliability and calculation of mean scores across subscales, intercorrelations between the latent variables were generated, including the four Sport Commitment Model scales, along with participation frequency, and purchase amount (the amount spent on the activity in the previous 12 months) (Table 17). Commitment, enjoyment, involvement opportunities, participation frequency, purchase and to a marginally lesser extent social support, were all highly intercorrelated. A Univariate Analysis of Variance (ANOVA) was then undertaken to investigate the influence of seven independent variables on each of the four subscales. Independent variables selected for analysis include five socio-demographic variables (gender, age, income, education, residence (rural or local)), activity type (hunting, fishing, mountaineering, tramping), and frequency of

participation (in last 12 months). Five of the seven independent variables were found to influence at least one of the Sport Commitment Model's subscales (Table 18). The only two variables tested that had no significant influence on a subscale were age and location of residence.

Table 17: Intercorrelations between latent variables

Scale	1	2	3	4	5
1.Commitment					
2.Enjoyment	.651**				
3.Involvement Opportunities	.657**	.518**			
4.Social Support	.298**	.174**	.400**		
5.Participation Frequency	.152**	.072*	.067*	-.040	
6.Purchase	.321**	.168**	.211**	.122**	.117**

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

Table 18: Sport Commitment Model, Cronbach's Alpha and Univariate Analysis of Variance

Variables (n = 998)	Commitment Scale		Enjoyment Scale		Involvement Opportunities Scale		Social Support Scale	
Mean	4.13		4.61		4.03		3.22	
Cronbach's Alpha	.844		.926		.775		.842	
Univariate Analysis of Variance								
	F	Sig.	F	Sig.	F	Sig.	F.	Sig.
Age	.870	.516	1.766	.103	.556	.765	.568	.756
Residence	.043	.836	.234	.629	1.967	.161	2.141	.144
Education	2.207	.111	1.330	.265	3.527	.030	.663	.515
Income	2.188	.042	4.482	.000	1.458	.190	.726	.629
Gender	11.312	.001	8.112	.004	4.135	.042	2.603	.107
Main Activity	19.612	.000	18.930	.000	16.206	.000	5.358	.001
Frequency (12 mo.)	63.165	.000	12.685	.000	20.188	.000	4.284	.005

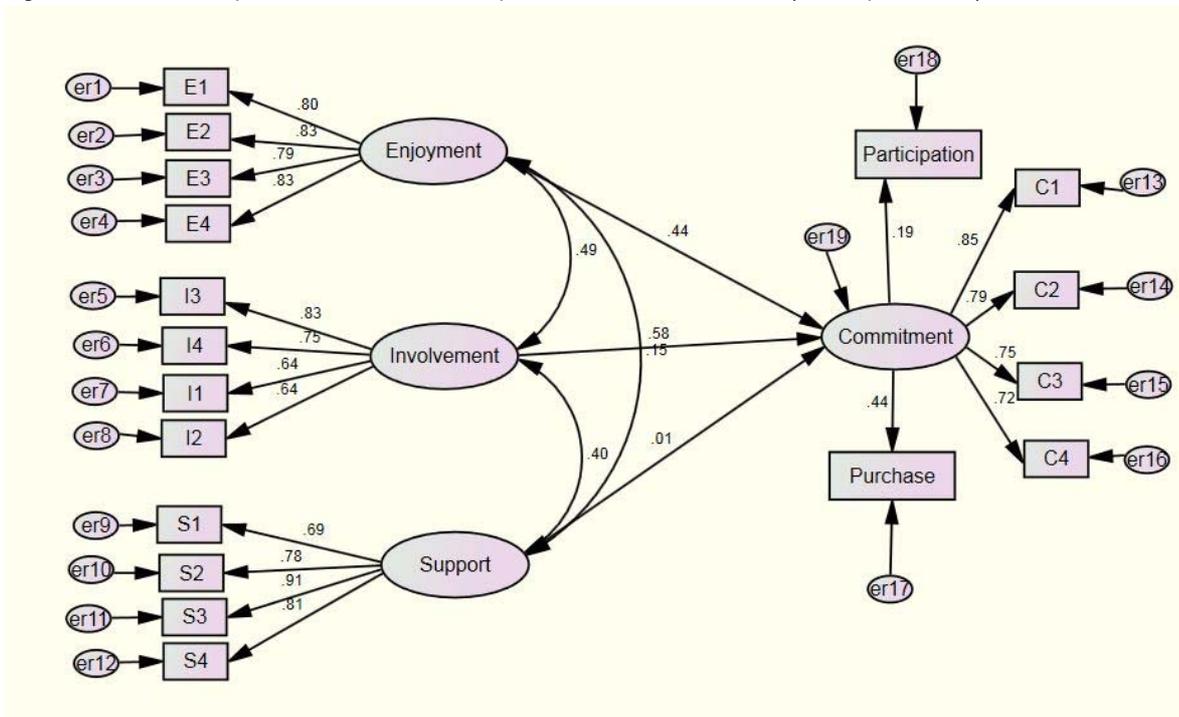
The commitment subscale was found to be related to income, gender, activity type and frequency of involvement. Within the commitment scale, participants most likely to return high scores for commitment were those who earn between \$40,001 to \$60,000 or between \$80,001 and \$100,000, were male, participated in hunting or

mountaineering activities, and recreated at least once a month or more. For the enjoyment subscale, income, gender, activity type and frequency of involvement were also correlated with enjoyment. Similar to the commitment scale, participants who earn between \$40,001 and \$60,000 or between \$80,001 and \$100,000 were most likely to indicate enjoyment is important. Males and hunters rated enjoyment items higher than did other groups. The highest level of enjoyment was recorded by those participants who recreated weekly.

For the involvement opportunities subscale, gender, education, activity type and frequency were found to be significantly correlated to this variable. This subscale focused on whether or not the lack of, or missed, opportunities to participate were important in respondents' commitment to their activity. Males were most affected by involvement opportunities as well as those with less education (only primary or secondary school). Hunters and mountaineers, as well as those who recreated weekly, were the participants most affected by their recreation involvement opportunities. Within the social support subscale only two variables were significantly related to this variable - activity type and frequency of involvement.

Structural equation modelling (SEM) was undertaken to further explore the relationships between variables within the Sport Commitment Model. The model shows acceptable fit to the data, and non-normality has been allowed for. SEM was run initially for the combined data (all respondents), then for discrete groups: anglers, trampers and a combined hunters and mountaineers group. The latter was due to the number of respondents being too low in both of these groups to undertake separate SEM. As noted in the research Limitations section earlier, there are weaknesses with combining these two groups as there are motivational differences between them.

Fig 19: Structural Equation Model for the Sport Commitment Model (all respondents)

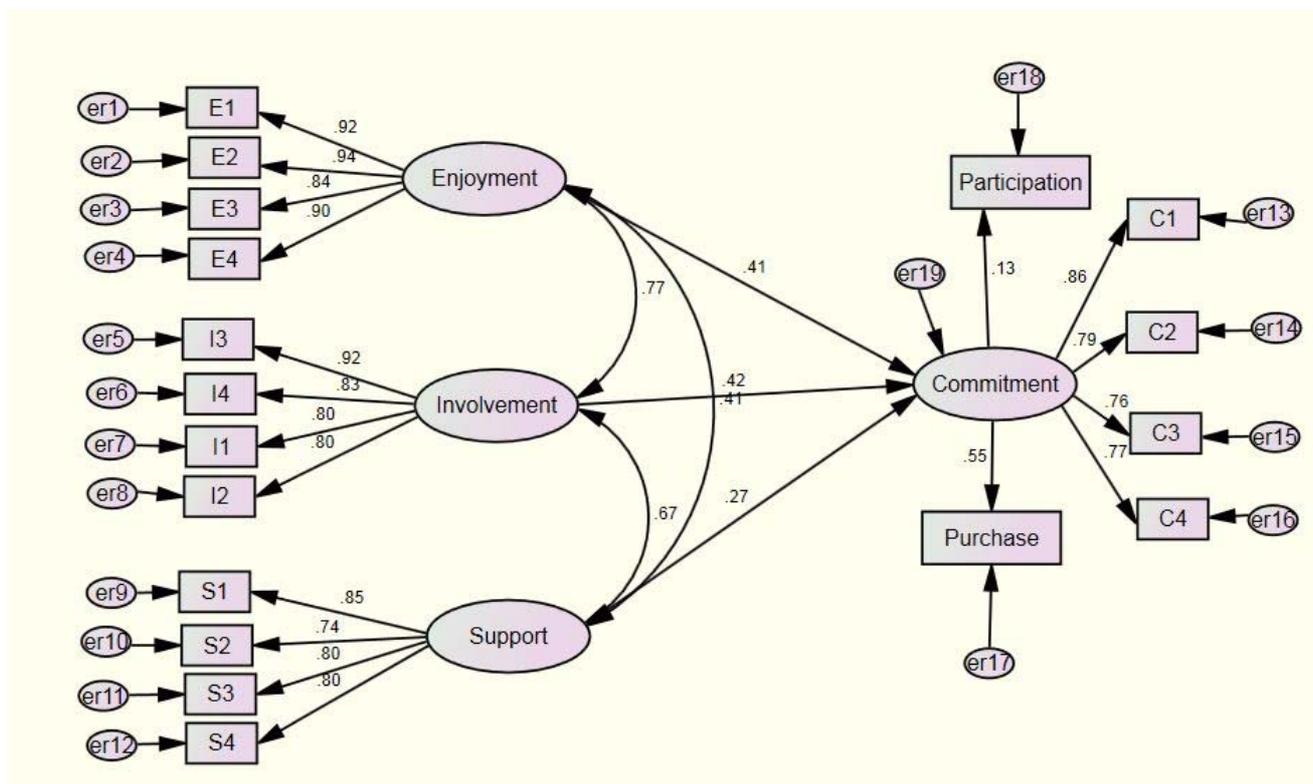


The SEM (Figure 19) plots the "standardised regression coefficients" (SRC) between the latent (oval) variables (Commitment, Enjoyment, Involvement and Social Support) and the observed (box) variables (i.e. the items

comprising each subscale E1-4, I1-4, and S1-4 (see Table 15)). We were interested in how psychological commitment relates to actual behavioural commitment, and have an observed variable for this – the frequency of participation in the last 12 months (shown as the box “Participation” in Figure 19). We were also interested in the relationship between psychological commitment and expenditure on the activity, and have a measure of this in the amount spent on the activity in the previous 12 months (shown as the box “Purchase” in Figure 19). The SRC represents by how much the observed variable increases for a one standard deviation increase in the latent variable. The observed variables are standardised so that their variance equals one. This effectively standardises all the regression coefficients (this needs to be done because all the observed variables are on different scales). Basically, the higher the SRC is, the stronger the relationship is between variables. All SRC are highly significant with $p < 0.0001$ except for Support to Commitment with an estimate of 0.01 which is non-sig with a p value of 0.752. The Commitment to Participation SRC is the next lowest at 0.186.

The links between latent variables (the ovals) is given in terms of covariance. The lowest covariance of 0.036 between Enjoyment and Support gives a correlation of 0.153 which has a p -value of 0.001. The other two covariances equate to correlations of 0.495 and 0.402 both highly significant with $p < 0.001$.

Figure 20: SEM for Sport Commitment Model (trampers)



As noted above, despite the large total sample size ($n=1024$), we had to combine hunting ($n=144$) and mountaineering ($n=105$) into one group. Fishing ($n=435$) and tramping ($n=222$) were large enough to analyse separately. While combining hunters with mountaineers is admittedly not an ideal mix, it does allow us to undertake SEM for these participants. The results (Figure 20) were similar for all groups with the exception of tramping where the SRC for Social Support to Commitment was statistically significant at 0.27 $P < 0.000$ (in the combined data this was not significant with an SRC of 0.01). Also, at 0.13 for trampers, the commitment to Participation link was weaker than the combined (0.19), although for trampers this is still significant ($p=0.004$ c.f.

<0.000 for the combined data). The key feature for the Mountaineers/Hunters (Figure 21) is a very strong link between Commitment and Participation. Also, note that their Support to Commitment link is actually negative but the value is very low and is not significant ($p=0.201$). The SEM for the anglers (Figure 22) reveals this group to have very similar characteristics to the combined sample.

While there are similarities with the findings from previous applications of the SEM, there were also differences. Notably, Casper et al (2007) in their study of adult tennis players found Enjoyment, Involvement opportunities, and Social Support all to be significant predictors of Commitment, while Commitment significantly predicted Participation frequency and Purchase. Our results align with these, in general, but differ in the minor role played by Social Support, which was found, overall, not to be a statistically significant predictor for the combined sample. However, when SEM for the separate activities was undertaken, differences began to appear – notably, Social Support playing a significant role for tramping. This may reflect the length of time that this activity takes, and the degree of planning involved (safety, logistics), compared to hunting and fishing, which *can* be shorter, more individual activities. The Commitment to Participation relationship was strongest for the hunters/mountaineers, which poses a problem in terms of identifying which of this combined group (was it the hunters or was the mountaineers, or was it both?) contributes more strongly to this relationship. Further research on larger samples will allow us to address this issue. The Commitment to Purchase relationship was reasonably and consistently strong for all groups; trampers, however, having the highest SRC. While there was statistically significant differences in the income distributions among the four different activities, the trampers in our sample did *not* have higher incomes overall. This suggests that income and propensity to spend on a recreational activity are more related to Commitment than income alone. Further SEM incorporating a range of demographic variables may help our understanding of Commitment and its link to Participation and activity related expenditure.

Figure 21 SEM Sport Commitment Model (mountaineers/hunters combined)

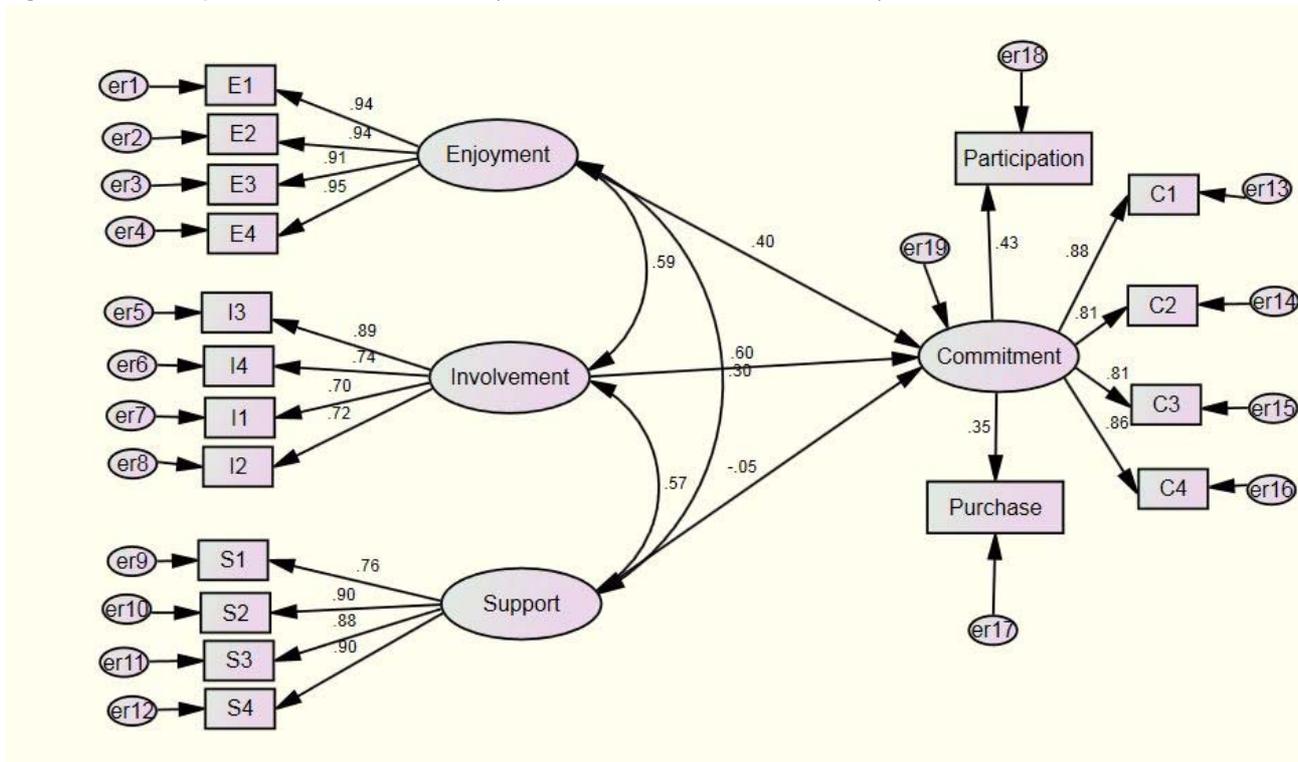
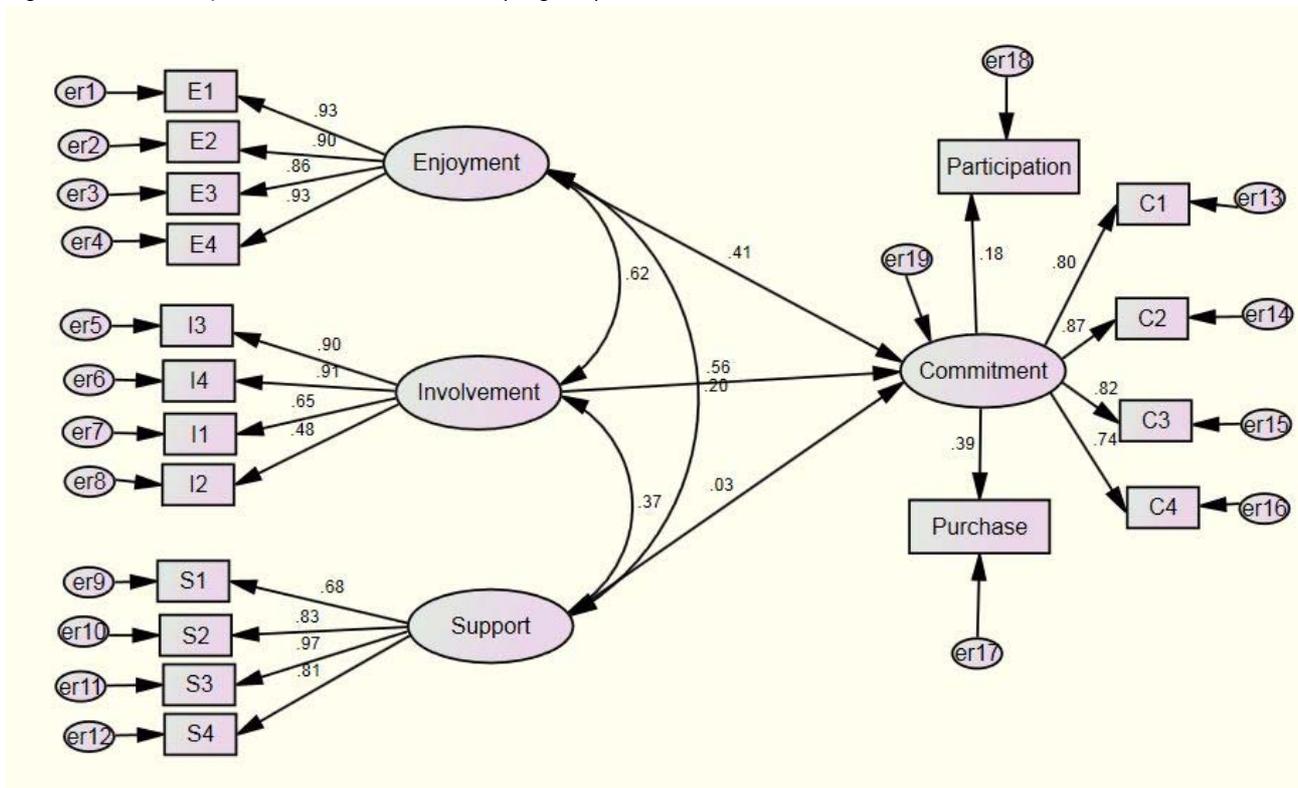


Figure 22: SEM Sport Commitment Model (anglers)



SECTION 5: QUALITATIVE INTERVIEWS

This section reports on the qualitative component of the study, in which in-depth interviews were undertaken with a sample of participants, to more fully explore the factors that contribute to their ongoing involvement/commitment in their activity, or alternatively to lapsing behaviour. To address the influence of geographic proximity to (and type of) recreation opportunities available to participants, interviews were undertaken with participants who reside in a range of locations. We sought interview participants from four locations (two urban (one North Island, one South Island) and two regional (one North Island, one South Island)). The original case locations were Wellington and Wanganui, Christchurch and Nelson/Marlborough. The quantitative questionnaires were administered in these locations. However, in light of the Canterbury earthquakes, Christchurch was excluded in recognition of the difficulties that we experienced in finding participants who could commit to interviews in the post-earthquake period. Dunedin was selected as a convenient alternative interview location.

Recruitment of interview participants was primarily through their self-identifying availability for an interview on the quantitative survey. However supplementary recruitment methods were also used to expand the sample, for example using past and present recreational club membership data, media advertising and snowball sampling. The interviews targeted 10-15 participants from each recreational activity. A purposive sampling procedure aimed at broadly obtaining representation across a range of ages, with both genders represented, and if possible across the range of four recreational activities.

Our final group comprised a total of 47 participants. The interviews ranged in length from 20 minutes to about one hour. Interviews were digitally recorded and professionally transcribed. Data analysis was inductive and data-led, starting with coding the interview transcripts and defining actions or events within it. Common themes and sub-categories were noted for psychological and behavioural commitment and enduring involvement in outdoor recreation behaviour. Analysis of the interview transcriptions used the constant comparison method (Glaser and Strauss, 1967) for participants' views, situations, experiences and practices. After all the relevant points were synthesised from the transcription data, the transcripts were re-read to ensure that all the phenomena were accounted for.

5.1 Participant Profiles

Although the original aim of the study was to interview a roughly equal number of lapsed and current recreationists, in practice, we had great difficulty in finding lapsed participants. This mirrored the difficulties that we experienced in the quantitative part of the study, where our survey participants were overwhelmingly current recreationists. This situation persisted despite our efforts to locate lapsed recreationists through public advertisements, advertisements in outdoor recreation/sports shops, and direct appeals to a large number of outdoor recreation clubs in the study locations. So while the final number of lapsed participants in the study is not high (only eight out of 47), taken together with the stories of those who are still current participants, we are confident that the interviews offer some strong messages about involvement/commitment in outdoor recreation. It should also be borne in mind that many of our current recreationists also have demonstrated at periods of their recreation careers, lapsing and substituting behaviours. So we were able to draw upon those aspects of those interviews to add weight to the data from lapsed recreationists (Table 19).

Table 19: Recreationists Interviewed: Current and Lapsed

Name (Pseudonyms)	Age	Sex	Activity	Involvement	Residence
Hunting					
Justin	39	M	Hunting	Current	Wellington
Thomas	65	M	Hunting	Lapsed	Dunedin
Bert	52	M	Hunting	Lapsed	Dunedin
Theo	63	M	Hunting	Lapsed	Dunedin
Bill	28	M	Hunting/Fishing	Current	Dunedin
Andrew	68	M	Hunting	Current	Nelson
Larry	38	M	Hunting/Fishing	Current	Nelson
Benny	45	M	Hunting	Current	Wellington
Dave	47	M	Hunting	Current	Wellington
Pete	43	M	Hunting	Current	Wellington
Neill	42	M	Hunting	Current	Wellington
Fishing					
Paul	47	M	Fishing	Lapsed	Dunedin
Rosa	41	F	Fishing	Current	Nelson
Justin	47	M	Fishing	Current	Nelson
Freddy	76	M	Fishing	Current	Nelson
Allen	29	M	Fishing	Current	Wellington
Griff	40	M	Fishing	Current	Wellington
Gabriel	51	M	Fishing	Current	Wellington
Bert	65	M	Fishing	Current	Wellington
Jesper	26	M	Fishing/Hunting	Current	Wellington
Kenny	33	M	Fishing	Current	Wellington
Mountaineering					
Raquel	57	F	Mountaineering	Lapsed	Nelson
Casper	58	M	Mountaineering	Lapsed	Nelson
Buster	30	M	Mountaineering	Current	Dunedin
Nellie	27	F	Mountaineering	Current	Dunedin
Jack	63	M	Mountaineering	Current	Nelson
Hardie	41	M	Mountaineering/Tramping	Current	Wellington
Howard	69	M	Mountaineering/Tramping	Current	Wellington
Christine	37	F	Mountaineering/Climbing	Current	Wellington
Boris	39	M	Mountaineering/Climbing	Current	Wellington
Prince	61	M	Mountaineering	Current	Wellington
Naomie	52	F	Mountaineering/Tramping	Current	Wellington
Martin	48	M	Mountaineering	Current	Wellington
Tramping					
Kristin	22	F	Tramping	Current	Dunedin
Margret	55	F	Tramping	Current	Nelson
Shelley	46	F	Tramping/Mountaineering	Current	Nelson
Sam	65	M	Tramping	Current	Nelson
Betty	63	F	Tramping	Current	Nelson
Trish	50	F	Tramping	Current	Nelson
Armand	72	M	Tramping	Current	Wellington
Hetty	36	F	Tramping	Current	Wellington
Chirona	43	F	Tramping	Lapsed	Wellington
Sharon	36	F	Tramping	Current	Wellington
Adam	41	M	Tramping	Current	Wellington
Molly	37	F	Tramping	Current	Wellington
Mike	33	M	Tramping	Current	Wellington
Esther	64	F	Tramping	Lapsed	Wellington

The age and gender composition of the group also broadly reflects that of the quantitative survey. While females dominated the tramping interviewees, at the other end of the spectrum, there were no female hunters interviewed. The fishing group was similar to the hunters, but with one female angler represented. The mountaineering group fell somewhat in-between, with females comprising under half of those interviewed. The

ages of our interview participants ranged from 22 to 76 years. The majority of participants were in their 30s, 40s or 50s.

The interview material was extremely rich and is presented here in a somewhat abbreviated form. However, the key themes to emerge from the data are presented, under four main headings: Antecedents (the preceding factors/conditions that created a positive environment for engagement with the recreational activity); Critical Moments (the key events or actions that lead to actual engagement with the activity); Facilitators/inhibitors (key factors that kept the participant committed/involved in the activity); and Benefits (important personal gains that kept the participant committed/involved). Please note that these are not clear-cut categories and that there is some overlap among them. However, they offer, at this stage a useful framework for considering how and why people 'get into' outdoor recreation, and indeed how they may cease, or lapse, from the activity. With that in mind, with respect to our lapsed interviewees, we address, for example, what critical moments may have led to them lapsing, or what facilitators or benefits were lacking from the activity or in their lives that may have contributed to their lapsing behaviour. Similarly, we speculate on the influence of antecedents upon lapsed and upon those who are still committed/involved.

5.2 Antecedents

Dominant antecedents fell into four categories: family involvement; childhood freedom; physical environment; and inspiring heroes.

5.2.1. Family involvement

Experiences of immediate or extended family involvement in outdoor recreation were a common feature of the childhoods of the research participants who had maintained a high level of involvement. Many such participants noted that they had come from families with multi-generational involvement in outdoor recreation. The age at which most participants started their outdoor recreation careers was very young. For many, this was a pre-school activity. Indeed, one participant noted how she too continued the family tradition, taking her own small children (age 4 & 6 yrs) along on tramping trips – “*I just roped them up so I didn't lose them!*”

...we would do overnight camps in the Tararuas...they were an hour's walk in and an hour's walk out and that was sort of when I was maybe sixish... (Justin, hunter)

...we had a family tradition of going for a Sunday walk and I actually think that's where my tramping philosophy came from (Naomie, climber)

...as a primary [school] student I went pig hunting with a friend and his Dad and I guess that's where I got hooked (Dave, hunter)

Oh I started that when I was probably about four or five, I was going away on camps ...and that continued probably right through to when I was about nine or ten and then I got into tramping (Pete, hunter)

And Dad was right into fishing, so I grew up initially going fishing when I was three or four I guess...and then went deerstalking sometimes with Dad when I was probably sort of 12 to 14 years I guess (Bill, hunter)

The importance of positive early experiences cannot be overstated – for example, fishing can be a long and boring activity for a child if they don't catch anything – but this was not the case for Kenny:

I got given a fishing rod by my uncle for my fifth birthday...basically as soon as Dad hooked up the rod and threw the bait out that kahawai bit instantly... I caught myself a nice kahawai for dinner and that was when I was five (Kenny, angler)

Furthermore, many participants had fond memories of regular family holidays spent at family baches or cribs, or camping in natural environments.

...we basically spent most of our holiday time outdoors, you know, exploring woods and forest and stuff like that, so it was kind of arranged from childhood but that's what you did for recreation (Naomie, climber)

Fishing is really a part of who our family is and what we do (Kenny, angler)

If it wasn't a parent taking them out tramping or hunting – it would be a relative, neighbour or close family friend. Those participants who did not have families who were active in the outdoors were still supported not only morally, but also logistically in their activities by parents, who often provided other essential 'support team' services (e.g. car transport to and from road-ends).

Early involvement of children in the outdoors did seem to be gender-biased, however, with many male participants observing that their sisters were not invited on (or were not interested in) excursions. Rosa, an angler, noted how her grandparents did a lot of fishing but that she "*was never invited along, because it's always the male thing in the family to do*".

5.2.2. Freedom to explore

For those not fortunate enough to holiday regularly in the outdoors as youngsters - and indeed for most of the participants - freedom to explore their immediate home environs was a critical factor in giving them confidence in the outdoors. This would later translate into more formal outdoor recreation participation. While few of our participants were raised on farms or in rural/natural environments, most had access to some 'unexplored territories'- over the fence, up the road, in the town belt, over the other side of the railway tracks – where they could develop essential outdoor confidence. This confidence was not in the form of technical skills, but purely the comfort of being in a 'wild' (or what may seem wild to a 10 year old child) area, and exploring its potential for a range of fun activities.

...we would disappear for an entire day without the parents really worrying where we were...(Justin, hunter)

Dad always had the philosophy if we were busy fishing and building huts and that sort of thing, we weren't tagging or getting up to other things...[it was ok]...so generally if we were out of our parent's sight, we were trying to catch or kill things, or devise ways of catching and killing things (Kenny, angler)

Mum and Dad encouraged us to adventure and do stuff and when I look back on it now with three young kids of my own, I can see that they, I think they took acceptable risks with us...they weren't certainly wrapping us in cotton wool...(Pete, hunter)

...we used to play games like let's swim under the willow roots under the bank, and I look back now and think 'Oh my God!' (Chirona, lapsed trumper)

...there was bush all around [our neighbourhood], and so we'd have forts in among the bush and we had the slide on it – I'm actually amazed that I survived -...we had this sheet of iron, we'd sit on it and just shoot down this hill, I mean you could hit a tree and shatter your skull so easily (Andrew, trumper)

In contrast to what we call a 'free-ranging' childhood above, the participants who volunteered information that they were raised more in the 'helicopter' style of parenting (where the parents constantly 'hovered' over the children) seemed to have a more checkered involvement with outdoor recreation.

5.2.3. The physical environment

The physical environment in which participants lived was also seen to be instrumental in their involvement in outdoor recreation. While most participants did not grow up in outdoor recreation zones, they often spoke of being very conscious of the view of the mountains from their house, or the fact that there were forest walks not far away, or a (fishable) river just a short bicycle ride from their home. Of course, combined with a family interest in the outdoors, this creates an irresistible combination in terms of a catalyst for involvement.

I grew up in Huntly, pretty much right on the Waikato River, so we were forever trying to catch trout and carp and all sorts of other stuff...(Kenny, angler)

...we were kicked out once we came home from school and don't come back until its dark, and so you know I always climbed trees and there was sort of a little river forest thingy where we went and built dams and so I always spent a lot of time outdoors, just exploring and doing stuff..(Christine, climber)

...mate and I used to when we were 12, actually just put on old gear and go eeling under the streets of Lower Hutt, they're not sewers, they're creeks, basically tunnels all under Lower Hutt and we had a lot of fun, yeah (Pete, hunter)

...seeing the peaks, the snow peaks from our home in country Canterbury and wondering one day could I possibly climb these little peaks (Jack, climber)

5.2.4. Inspiring heroes

And while parents or other close family members and friends were cited as being inspirational, some of our participants noted the influence of more public 'outdoor heroes'. Sir Edmund Hillary was noted by one mountaineer, for example, as a reason for getting into that activity:

Sir Edmund Hillary was a huge part of our life and was a childhood hero I guess to most of us...to tread where all of my climbing heroes had trod was a real buzz...(Jack, climber)

Other participants, especially the hunters, had, as children or teenagers, read hunting books written by New Zealand hunting heroes, such as Barry Crump - and this had inspired them into that activity.

5.3 Critical Moments

Critical moments are those that either provided a catalyst for entering into outdoor recreation, or, conversely, may have led to lapses in participation. We initially discuss the 'positive' critical moments.

5.3.1 Schools and youth organisations

Those participants who did not evolve from 'outdoorsy' families, were usually triggered into outdoor recreation at a later age – often in their high school years – through involvement in a club or programme, such as the Duke of Edinburgh Awards, or through the Scouting movement.

Some of my strongest memories of fantastic holidays were when we first went out on a camp, on a weekend camp with scouts which was only two or three miles down the road but its like going to another planet and I just loved the outdoors (Prince, climber)

So yeah, my first real tramping experience was my very first Bronze tramp... and yeah... it was pretty cool (Kristin, tramper)

A number of participants spoke about significant people in their lives, often very special teachers, who played a crucial role in encouraging them into an outdoor activity. Sometimes, these teachers offered the participants avenues to explore a form of recreation that did not involve a team, a ball or physical contact. Some participants did not like team sports or contact sports, but in the 'compulsory sport' paradigm that dominates our school environment, they had to be seen to be involved in *some physical activity*. A 'way out' of conventional sport was to join an outdoor club or activity at the school.

I went to Onslow College and at the time, in the 80s it was known for a reasonably good wilderness programme as they called it, and we had tramps all the time... we had some crazy teachers who loved doing very adventurous things...there is a couple of teachers that I can really picture that got me really keen on overall outdoor stuff (Justin, hunter)

There is no doubt in my mind that the guys that took us climbing in, when I was in school, they were fully instrumental in me getting involved in that as a sport

This form of 'capture' was especially important for those who may have come from a highly urbanised environment, for example Hetty (tramper) who emigrated here from Hong Kong as a child, whose parents had no experience of the outdoors, which was very much a 'foreign place'.

Some participants spoke of reading a certain book (usually non-fiction) about outdoor recreation, or attending a slide-show or presentation that opened their eyes to the natural world.

5.3.2 Negotiating critical transitions

There were a number of critical moments that contributed to either temporary or permanent lapsing behaviour, and/or substitution of one type of activity with another. Considering the progression from childhood to adulthood, it became apparent that there are a number of important transitional phases that require careful negotiation if outdoor recreation participation is to be transitioned from one phase to the next. The first phase is what we call the 'outdoor-kid to cool-ball-kid' phase. This was the period, from puberty to adolescence when a number of our participants – even those with strong and early histories of outdoor recreation with their family

and friends – sometimes ‘lost their way’ in terms of maintaining their involvement in outdoor recreation. This period is characterised by school and peer group pressure to conform to more conventional modes of outdoor recreation and leisure. Often, this engagement was voluntarily and actively pursued, and many of our participants spoke of their love for the conventional sports of rugby, soccer, netball or cricket – but how the time demands of those sports challenged their involvement in nature-based outdoor recreation. Some participants also considered that their outdoor recreation activity was seen to be not ‘cool’ at this stage, by their peers. The difficulties of this period were sometimes overcome by re-engagement with the outdoors through a school programme, camp or scouting activity (as described above) – or by eventually making a close friend at high school who supported and/or reignited an earlier passion for their outdoor activity.

The next critical phase we identify is the high-school to tertiary education/training period. This phase was characterised by much greater time constraints being placed on the participant, because of the demands of study. Typically this would be a phase when lapsing behaviour was observed, sometimes temporary. To maintain a commitment to the outdoor activity, our participants would often join an outdoor organisation, such as a university tramping club. One interviewee went so far as to be a co-founder of a hunting club at university, in order to form a core group of people to participate with.

Of course, the move to university and to working life is often a geographic move, as well as placing new demands on time. So, the third critical phase is one that we identify with a spatial move from one region to another. Such moves are often accompanied by separation from outdoor activity companions, and also by a spatial alienation from a familiar outdoor resource. Participants spoke of no longer having places to go to, or people to go with. They might have moved to a new town, not knowing anyone, and were unfamiliar with what areas to go to hunt, tramp, fish or climb.

The most common strategy employed by participants to address this spatial alienation was to join an outdoor organisation – tramping club, hunting club etc. Often this was only for a short duration (or at least *active* membership was for a short duration), until sufficient local contacts were developed and local knowledge gained. Note that sometimes, this strategy was employed by participants who had had a zero to low level of participation and who had moved to a new location – sparking a major interest and high level of involvement with a particular outdoor activity.

The next phase that often resulted in lapsing behaviour, was ‘settling down’ – with a long term partner and often heralded by the arrival of children. For many participants (both male and female) this phase commonly saw at least a reduced level of involvement in their activity, and for some lapsing for a period. The main reason given for lapsing was a lack of time (and/or energy) associated with raising a family – especially when the children are very young. Some participants negotiated this phase by substituting less time-demanding and expansive activities (e.g. city walking, or day bush walks along accessible tracks, for overnight tramping trips). Some maintained their connections with their activity through still participating in some less demanding club activities (e.g. members’ meetings). Some commented about a lack of club (e.g. tramping) activities that were tailored for parents and small children together. Participants rarely reported that clubs offered some form of family-oriented activities. Importantly, those who were lapsed because of family commitments saw a future when they would re-engage, and this was in-part motivated by a strong desire for their children to be involved in the activity. Sometimes this drive was linked to fulfilling their children’s identity as New Zealanders – almost a duty for their children to take advantage of their ‘birthright’ – and something in their life that parents hoped their children would ‘come back to’ one day.

For others, especially mountaineers, the settling down phase was a time to reconsider the risk/benefit of their activity in light of their new child-raising responsibilities. One participant lapsed for a period of 20 years, to raise her children to the stage that they were independent. For another participant, getting through the child-raising stage was also significant in allowing her to transition from the low risk activity of tramping to the higher-risk activity of mountaineering, without the worry of the potential impact of an climbing accident upon her now largely-independent children.

The arrival of children on the scene does not necessarily preclude involvement with the outdoors, however. Some participants managed to negotiate this, by involving their children intensively in their activity, and actually seeming to use the excuse of kids to actually get out more (once they had reached an adequate age).

...as the kids got bigger they were coming out all the time, yeah, like from an early age...my son shot his first stag when he was seven... and same with my daughter (Neill, hunter)

The importance of having a partner who was supportive cannot be overstated. A number of our participants noted how they had had unsuccessful relationships/marriages with partners who did not share their outdoor passions. In many cases these participants had formed new partnerships with someone who has a similar (or at least *some*) level of involvement in the activity. And in a few cases, participants had actually met their current partners through their activity – for example through the Wellington Tramping and Mountaineering Club, aka the 'Wellington Tramping and Matrimonial Club', or the Wellington Catholic Tramping Club aka the 'Wellington Catholic Dating Club'!

...if my partner was more into it that would make me do more of it (Molly, lapsed trumper)

The last transitional phase was that into middle age and senior years, with accompanied loss of fitness and agility for outdoor recreation. While this was not an automatic transition, it was reported, most commonly by trampers and mountaineers. For some, it led to lapsing and withdrawal from the activity. Some participants managed to negotiate this phase, to some extent through engagement in what one interviewee called 'boutique tramping'.

...every so often we throw in a boutique tramp, so that all our packs are carried for us, and all we do is tramping...and the hut has got electricity, it's got a flush toilet, it's got a hot shower... (Sam, trumper)

Esther (65 yrs), suffered an injury while on a tramping club trip and since that time has participated in boutique (guided) tramps:

...it meant that you could actually enjoy the people you were with, enjoy the scenery, and not have any worries. Plus you have the comfort, I actually have to have comfort [because of injury]

Other interviewees also modified the nature of their participation – for example, Freddy (76 yrs) reduced his saltwater angling, focusing more on freshwater, which he found less physically demanding. He also reduced his frequency of participation – the actual time spent out on the river over a season. Mountaineer participants lowered their goals in terms of the technical challenges associated with the summits they aspired to. Some mountaineers substituted other activities – for example Raquel and Casper took up fly-fishing as an activity that was less physically demanding but still got them into remote and beautiful parts of New Zealand. Generally, for those involved in hunting and fishing, their participation seemed to be less effected by aging. One hunting

participant, Armand, is 72 years of age and still undertaking an annual 'exploration' trip to remote parts of Fiordland. Another participant, a hunter, when asked if he had considered giving up hunting, said:

*...the day you can see them lowering me into that grave, you can say that I've given up hunting
(Andrew, hunter, 68 yrs)*

For some, involvement in club activities, for example serving on a committee, undertaking training of new members, or writing regular contributions to newsletters/magazines maintained a level of commitment to their activity that complemented their declining physical involvement. However one most profound impact of age upon participation is the loss of significant other recreation partners through death or ill health – a sad eventuality for which there is no clear mitigating strategy.

5.4 Facilitators and Inhibitors

Facilitators and inhibitors comprise actions, situations within the personal environments of participants, and institutions that contribute to or deny the ongoing commitment/involvement of recreationists. Facilitators differ from the following category, 'Benefits' in that they tend to be more external in origin, whereas benefits are largely personal or internally derived satisfactions that may contribute to ongoing commitment to the activity. The section considers some inhibitors identified by our participants: lack of time, cost and access/environmental quality. Then the section addresses facilitators including the roles of clubs, the learning opportunities associated with the outdoor activities. The lack of certain facilitators can act as an inhibitor to involvement.

5.4.1. Lack of time

The most commonly reported inhibitor or constraint to involvement, across all activities, was simply the lack of time, due mainly to busy working lives. A small number of participants had managed, at various stages of their lives at least, to combine elements of their working lives with elements of their outdoor recreation. For example, among our group of interviewees was a participant who was a professional hunter at one stage of his career. Another worked designing fishing equipment. Another worked in an NGO as an advocate for anglers/shooters. Some participants envisaged a personal future where they would be able to achieve a blending of work and leisure – for example developing a professional hunting guiding business. Whether actual or virtual, this symbiosis of work and leisure ('serious leisure') provided an impetus for ongoing commitment to the activity.

5.4.2. Costs

Some participants also mentioned the high costs associated with their activity – for example, hut fees on the Great Walks, and the cost of fishing licences. Often, though, cost was only important as an inhibitor when combined with another factor- such as having a young family, or beginning study in a new location. By itself, it seemed that cost, for this group of participants, was not an important constraint overall.

5.4.3. Access and environmental quality

Access and environmental quality seemed to be more important for the consumptive recreationists than for the others. Anglers mentioned difficulties in accessing some waters to fish, as a constraint to their activity, and noted that some landowners who had traditionally allowed free access were now charging 'considerable fees',

or restricting access to guided anglers. One participant noted that uncertainties around access – not knowing if access was permitted or legal - impacted upon his involvement. Declining water quality and poor river management were also noted by a couple of angler participants, as impacting upon the quality of the fishery and consequently, the nature of their participation in angling.

5.4.4. Outdoor clubs

Outdoor recreation clubs were identified by many participants as playing a role in facilitating their activity. Such organisations provided support in many ways. As noted above, they offer a ready supply of potential recreation partners, and a regular programme of activities.

It's sometimes hard to find people with the same commitment, and with the same experience. With people you trust. So that's why the clubs are quite good to meet people (Natasha, climber)

Clubs also offer training and education programmes, for example the HUNTS programme run by the New Zealand Deerstalkers Association, and alpine climbing courses which a number of participants noted has played an important role in their transition from tramping to mountaineering. One participant, a late-comer to tramping, described how joining a club and participating in their programmes enabled him to wean himself off computer games and eventually become a committed trumper. On a more practical note, clubs may also offer subsidised (by the club membership) transport and equipment hire.

While our interview participants were generally positive about the role of clubs and organisations, a number offered comments on how their role in maintaining recreation commitment could be improved. Some found tramping clubs, for example, daunting, in the 'bums up, heads down' approach to tramping that placed an emphasis on tramping times at the expense of environmental awareness and social interaction. This was noted as being a deterrent to novices. Buster, a mountaineer, described alpine club trips as a "bit of an elite type community" and difficult to "break into". Freddy, a member of an angling club, noted the 'blokesy' behaviour in his club and would like to see more women involved, believing that this would offer a different 'philosophy' to the club and also benefit the administration of the club. Shelley too, spoke about the 'old-boys' aura of one alpine club, describing sexist attitudes to female participation in some 'tougher' trips, again deterring female members from engaging in some activities.

...you get looked [at] sideways and one guy, grumpy old bugger, sort of said to me, 'normally don't take women' (Sissy, climber)

5.4.5. Self provisioning and gifting

Hunting and fishing differ from tramping and climbing in being 'consumptive' activities – in other words they involve killing or taking animals from their natural environment. They thus offer unique benefits. For our hunting participants, the opportunity to get meat was an important facilitator, but many viewed this as an incidental by-product of their participation - the primary motivation being to get out independently in the natural environment. For some, however, getting meat was the primary motivator. Within this latter group, a few articulated a deeper motivation that went beyond just getting some meat – but rather an atavistic or instinctive drive to provide for themselves and their families.

I sort of have my own philosophy about, you know, what we're meant to be doing, and I think, you know, you have to talk about your needs and your wants, and sort of think, you know we need shelter, we need to go and gather food, and they're the sort of, the most primary things in our society (Neill, hunter)

I really like venison, and also the ability to get some free range meat, not to have to rely on the supermarket so much, it's the self sufficiency, yeah definitely really like that (Bill, hunter)

...it's good getting out there, it's a bonus if you see something, and it's a double bonus if you come back with something... I don't buy meat, and I haven't bought meat probably for 10 or 12 years or so. So yep, many people go to the supermarket where I prefer to go hunting myself (Larry, hunter)

Some participants noted the importance of gifting meat or fish to family and friends.

...back in Ohakune, it was like the old people, well pork, it's like, they just think, I know how much it means to them, and they can't go and get it, and to provide someone with a nice leg of wild pork or something to boil up is easy for me but very important to them (Neill, hunter)

5.4.6. Exploring new spaces

The capacity to explore new spaces, and for participants to take their activity into new spaces was an important facilitator. There are variables associated with the geographic location at which each 'level' of activity may take place within each recreation – as essentially the nature of the activity may alter considerably from one region, park or valley to the next.

...it just never gets boring, and every trip is so different. Yes every trip has got different dynamics, different people, and different food and different route and different angle, different weather, different moods, just you never know what to expect so that keeps me going (Natasha, climber)

Just to get higher and safer... the last bit on the mountain you always require a little more technique and skills, so I just wanted to learn that (Sissy, climber)

So in this sense, engaging in angling, for example, offers infinitely more avenues for learning than a sport such as soccer - for which the variables are limited to a fixed pattern of engagement within a tightly defined set of rules, and taking place upon a relatively limited number of venues (e.g. school or club fields).

The capacity to become an 'explorer' while engaging in the activity was thus integral to many participants' ongoing involvement and enjoyment. Armand, as noted above travels each year with a group of friends to explore remote areas of Fiordland. Buster, a mountaineer, speaks of his ongoing involvement as just a natural extension of wanting to explore your natural environment – in this sense something almost atavistic.

Importantly, the learning we refer to here is not restricted to mechanical skill attainment, but is also about personal development, and the acquisition of desirable character traits (see *Learning and Skill Enhancement* below). For example, Bill, a hunter, spoke of the unpredictability of hunting and how this was okay because "It teaches you persistence, self reliance". Boris, a climber said that climbing has given him the ability to look at things "as a challenge and not a problem" – and that this also flowed into his work life.

5.4.7. Helping and mentoring

The opportunity to help and mentor other recreationists, formally or informally, was a motivating factor for many of the more experienced recreationists in our study. A common progression for participants within each activity was to assist other participants in their learning processes too. Many of our interviewees were involved in helping new club members, or friends/associates with learning about the activity – taking them out hunting, fishing or climbing – and reportedly gaining a great deal of satisfaction in the process. Arguably, for our participants, such mentoring involvement not only provides the personal satisfaction of contributing to social group goals, but also allows the ‘tutor’ the satisfaction of reflecting upon their own personal attainments within the activity over the years since they themselves were novices.

And it's been a very rewarding hobby, you could have helped a lot of other people get enjoyment from it. I've helped a lot. I've even had classes of fly-tying at my home from time to time. And not so commonly now, but when I was a little younger, I used to take virtual strangers and take them to a quiet stream with not too much current, teach them casting (Freddy, angler)

I've introduced probably 100 or more people to hunting and their first deer (Neill, hunter)

I've become part of a buddy programme, but...I've always engaged in helping the young ones get out into the outdoors...there was a mother who was a solo mum, and she had two boys, and I'd take these boys away off tramping...anyway this one time sticks in my mind, I took him and a friend, and his mother, up to Mount Cook, and we went up onto the Sealy Range when he was 10 years old. And years later, as a grown man, he sought me out to say, 'thanks you so much for the introduction to tramping' and he said 'I've recently taken my own 10 year old son on the same trip' (Margret, trumper)

Larry, a hunter, is involved in running a HUNTS course for new hunters and noted that with increasing urbanisation and disconnection of New Zealanders from the land, coupled with changing family composition, mentoring is increasingly important – “unless they're successful, they're going to give up pretty quickly”. Interestingly, some participants spoke about their lack of a mentor, their need for help and advice, and how this had been a constraint for them to overcome:

...we haven't really had a mentor who has taken us under his wing, and said, 'this is', and shared his possies or his knowledge. I guess that's just something that we've done by ourselves (Rosa, angler)

5.5 Benefits

This section addresses those personal benefits, that could broadly be grouped under personal ‘well being’, that our participants associated with involvement in their activities. We include here psychological benefits as well as physical benefits.

5.5.1 Personal wellbeing

Across the four outdoor activities there was a strong level of concurrence over the essential personal benefits of participation in outdoor recreation. Martin's comment epitomises the benefits of outdoor recreation:

...being outdoors in a most amazing environment with a group of fantastic people (Martin, climber)

Despite the singularity of the above comment, the interview responses noted the benefits of participation also to be intensely personal. Participants spoke of a range of other benefits, including the escape and aesthetic components of their participation. Freddy, an angler, for example, spoke of how "...it's like going back [to being] like a little boy". And although not all our interviewees articulated their benefits in such a way, we found 'spirituality' or 'harmony' to be common and essential descriptors of the experience of outdoor recreation. Participants spoke of their trips being 'therapeutic', one referring to the capacity of outdoor recreation to 'revive' him.

I call it my 'soul top-up'. I go into the mountains these days to top up my soul a little... I come back with so much energy from being in there (Jack, climber)

Others made the connection between their outdoor recreation and their mental health:

It's what keeps me sane... I just get really grumpy if I don't go...if I'm feeling grumpy I can always ask myself 'when did I last go for a walk?' (Trish, trumper)

...tramping was always used a bit of a stress release... it was just lovely to go away into the hills for, you know, three or four days and the only thing you have got to worry about is how you are going to defrost some ice for water (Kenny, angler)

For me it is a big unwinding thing, is just going and doing something that is completely unrelated to work or study, or whatever your day to day thing is (Kenny, angler)

5.5.2 Spiritual and aesthetic

Of course considering that our four activities all take place primarily within natural settings, it is no surprise that the aesthetic experience of being in beautiful scenic natural surroundings was regarded as being important by all of our participants. For many, the physically beautiful has a spiritual element:

I go into this beautiful little place that's shaped like a church because the trees all lean in at the top, these tall trees and the water comes through in the bottom...when there's trout in that cathedral...it's wonderful (Freddy, angler)

...it's just the sheer, real beauty of the place and the stillness... it's just fabulous, it gives me an absolute buzz to be up there (Jack, climber)

I think it's the beauty of the mountains and just the feel I get. The feel I get when I'm up on the top (Sissy, climber)

5.5.3 Simplicity

Coupled with the aesthetic experience is an ascetic experience – or one in which the basic needs of life are highlighted and become more apparent. Involvement allows the opportunity to rediscover the essentials in lives that, as one participant noted, are 'cluttered' with a lot of other wants and needs.

...it's a very simple existence when you are in the bush - you know your worries are: Do you have sufficient food? Do you know where you are? Are your clothes dry? So it's really great in that sense (Bill, hunter)

...to get away from complexity I think. It's very simple. It's a very simple happiness. Only need to care about is food and shelter (Natasha, climber)

Getting away from everything and it's just so simple... if you are warm and if you got some food, you don't need much in real life (Sissy, climber)

5.5.4. Escape

Relief or freedom from the pressures of work was also highlighted by many participants, and associated with the 'rhythm' of the outdoor activity itself. The physical distancing involved with the activity and often substantial temporal removal from home and work pressures are critical characteristics of outdoor recreation that enable this relief and freedom.

It keeps me emotionally grounded. It enables me to walk away from, you know, digital shackles into the outdoors and feel really alive (Pete, hunter)

Getting 'far away from the madding crowd' was also a strong benefit for participants. This applied not only to escaping crowds of urban strangers, but also on occasion to escaping immediate family members – to get 'time out'.

...the peacefulness, no one around usually... the peace and tranquillity for me, the remoteness of where we go (Justin, angler)

5.5.5 Social experience

Despite the desire expressed by many to remove themselves from social contact, the social aspect was actually a very important aspect of the experience for many participants – but perhaps more so for the female participants. Our interviewees almost universally noted the benefits of meeting and participating in their activities with 'like-minded people'. They also articulated that outdoor friends were different or special from their non-outdoor friends. For some participants, notably trampers, and especially those actively belonging to clubs, people that they had met through their activity played an important role in their social lives. Mike described how if he did not go tramping, it would leave a "bit of a hole" in his social life.

...and the company, the companionship and the hills, and you rely on each other and you make really good friends (Natasha, climber)

I think you form very strong bonds with people when you are out in the hills together, like being on a cliff together with somebody, it is different than being at the pub (Justin, hunter)

...one of the things I love about climbing is the fact that most people I climb with, all people that I climb with are actually really cool people (Boris, climber)

They are a great group of girls and guys, and they are very caring, you know they really look after one another along the way and you have a lot of fun (Betty, trumper)

Notably, hunters were less vocal about the social benefits, often seeking a more solitary experience. Anglers often fished with others, but this being more of a 'negotiated' social event, in that the actual fishing is undertaken individually, but with anglers planning their activity carefully to meet and interact at specific times and places on the waters they are fishing.

I say time out from the family, you're together [with partner], but on the riverbank we're separated by quite some distance... and so it gives you that time to have the opportunity to have that time out and that headspace, and then you come together and discuss and skite and all those sorts of things and then you go back to your places again (Rosa, angler)

5.5.6. Learning and skill enhancement

The opportunities to progress and learn within each outdoor activity were also critical in reinforcing commitment. Sometimes this was aided by clubs, but more often occurring 'organically'. Of the four activities addressed in this study, arguably, all of them offer avenues for advancement or development within the scope of the activity. More often than not participants demonstrated a recreation or activity 'career path' within their chosen activity. Anglers, for example, demonstrated a common progression from bait fishing or thread-lining ('spinning') to fly fishing, and within the latter, back-water fishing, dry-fly fishing, catch and release, and tying their own flies - all providing extra levels of realization within their recreational activity. Trampers progressed from short lowland tramps on moderate-level tracks to alpine crossings with snow and ice work. Mountaineers and climbers progress through their specialised system of gradings for each summit or route that they attempted. Evidence internationally (e.g. Miller and Graefe 2000) suggests that with specialisation in their activity, hunters may commonly progress from more to less consumptive sub-activities but our participants were mainly found within the meat hunting class, although a number had delved into bow hunting and photography.

5.5.7. Managing risk

Associated with the development of skills, was the management of risk that is inherent in outdoor recreation. Most of the activities, often occurring in remote and wild places, involve elements of risk. Managing risk was important for some participants – especially those involved in mountaineering. However, participants were clear that they did not seek risk in the activity, but rather gained a personal satisfaction from overcoming the risk through the application of planning and technical skills.

Some of our mountaineer participants revealed that summiting was not necessarily their main motivation – that they were not so much goal oriented, as activity or 'process' oriented. This was in a similar way to the anglers and hunters described above, who primarily use their activity as an 'excuse to get in to the hills'.

...getting to the top of something for the sake of it doesn't really, isn't my motivation. So just enjoying the country and stuff (Buster, climber).

5.5.8. Human-prey challenges

For the hunters in our study, contrary to what many non-hunters may think, the pleasure in their sport was not from the killing of animals. In fact many of our hunting interviewees commented upon this as being the least desirable aspect of their involvement in hunting.

Well I tell you now, I don't get enjoyment out of killing animals, in fact quite often I don't even [kill them], I take a camera (Andrew, hunter)

And while, as noted above, our hunting and angling participants might take pleasure in the victuals they bring home from their excursions, this is quite different from taking pleasure in the act of killing the game. The anglers spoke of the 'thrill of the catch', but they all regularly practised catch and release. Rather, our hunting interviewees (and anglers) tended to obtain their personal satisfaction from the human-prey battle of wits:

I get quite a kick outwitting these animals (Andrew, hunter)

It seems a crazy sport to a lot of people - that you spend hours trying to catch perhaps one trout only in that day, play it out, and then go to an enormous amount of trouble to successfully release it so it's unharmed (Freddy, angler)

...a wild animal is very, very, unpredictable...the intellectual challenge of hunting an animal, like learning about an animal, how they live, where they live (Bill, hunter)

5.5.9. Physical exercise

Interestingly, for many participants, their involvement in the outdoors was the main means of them maintaining physical fitness. However, in the interviews this was seldom mentioned unprompted, and seemed to be an afterthought, and clearly a secondary benefit from outdoor recreation.

And of course there's always the exercise side of it, we'd like to think we can live a bit longer by doing, keeping ourselves a bit fitter. Live to enjoy some more tramps! (Sam, trumper)

5.6 Lapsing Behaviour

Lapsing behaviour was exhibited by most participants, although for most, the lapsing was only temporary and was able to be 'managed' through a particular strategy, or addressed simply by the passing of time over which the circumstances that led to the lapsing no longer applied, or were no longer inhibiting involvement.

The most common causes of lapsing were lack of time, and/or a changing social or physical environment for the recreationist – as noted above in the section addressing critical moments. Moving to a new job; living in a new location; undertaking study; or starting a family were common reasons for lapsing. Somewhat paradoxically, a participant's busy work life, while contributing to lapsing for some participants, was a strong motivator for others to stay involved – primarily as a means of stress-relief.

For some participants, lapsing arose simply because a new activity had eclipsed a former activity – for example, two lapsed trampers spoke (independently) about how road cycling had taken over their lives. Chirona, now engaged heavily in cycling, running and swimming for her triathlon training, had no real need or desire to engage in tramping. Paul spent up to 18 hours per week training for road cycling races and had given up fishing.

Generally lapsed participants acknowledge that their replacement activity does not offer the same benefits as nature-based outdoor recreation. For example, the road cycling and triathlon training is generally of a shorter duration than tramping and for Chirona does not offer the same release from the pressures of her work, yet is still rewarding enough for tramping to be supplanted. Paul can observe similarities in the 'rhythms' associated with cycling and those he experienced as an angler.

Generally an 'eclipsing' activity was not enough on its own to supplant an existing outdoor recreation activity. There would be some other element within the participant's life, or some other constraint acting upon their involvement in their outdoor activity that would also contribute to the lapsing. For Paul, moving town, and no longer having close and experienced fly fishing friends to go out with, coupled with the expense of a fishing licence led to him lapsing, and to cycling supplanting angling. For Chirona, a strongly negative experience within her activity contributed to her lapsing – despite a life history of tramping, pressures of work meant that she had left it a long time between tramps:

[Then] I did do a tramp, and I was completely unfit for it, in the Tararuas, and it damn near killed me...it put me off... Between everything else I was doing, it was just in the too hard basket (Chirona, lapsed trumper)

Thus triathlon training took over from tramping, being more time efficient in terms of meeting fitness goals, and being enjoyable in the process.

It appeared that participation for each of the four activities had some special characteristic that made it quite difficult to find the perfect substituting activity. Perhaps hunting was the most challenging in this respect, because of the atavistic human-prey relationship that could not be easily replicated – although many hunters, when challenged about what they would do if they could no longer participate in hunting, identified fishing as a potential substitute. To be fair, almost all participants in the study were aghast at the (hypothetical) prospect of having to give up their particular activity, some saying that they would leave the country if their activity was outlawed. For such a group of involved/committed recreationists, their activity forms a central part of their identity that most participants openly acknowledged they would continue to be active in as long as they were physically able.

...there'd be quite a bit of grief, you know, a period of grief (Naomie, climber)

SECTION 6: CONCLUSION

This study examines commitment and involvement with four outdoor nature-based activities in New Zealand: hunting, freshwater fishing, mountaineering/climbing and tramping. The contribution this study makes to research on New Zealand outdoor activity involvement is to provide a better understanding of the importance of a range of personal, social and environmental influences upon commitment and enduring involvement. A mixed-method approach was adopted, including administration of a quantitative survey questionnaire and follow-up qualitative interviews. The survey questionnaire (N = 1,024) comprised closed and open-ended questions to obtain data on participant demographics, activity involvement and frequency of participation, motivations, constraints and patterns associated with a modified version of the Sport Commitment Model. The interviews were conducted with 47 current and lapsed recreation participants from urban and rural study locations: Wellington, Dunedin, and Blenheim/Nelson.

A range of participation data is presented, including frequency of participation, seasonality of participation, social interaction during participation, typical activity, activity location, secondary recreational activities, and expenditure data for each of the four main activities (hunting, fishing, mountaineering and tramping). The survey data revealed a number of statistically significant differences between respondents from the four primary outdoor activities across a number of variables. Hunters and anglers tend to recreate more frequently than mountaineers and trampers. Differences in social interaction during participation were reported – freshwater anglers tend to recreate with family; whereas hunters and mountaineers recreate in smaller groups and trampers in slightly larger groups. Overseas participation occurred more often for mountaineers and trampers.

An examination of motivations and constraints data for participation in outdoor nature-based activities revealed several significant differences between recreation groups. Motivational items were grouped into five subscales: escape, nature, bonding, learning and social. Overall, the strongest motivations were the three items from the nature subscale, being in a natural setting, enjoying natural scenery, and tranquillity. The next most important motivation overall was escape. Hunters and anglers were found to be most motivated by escape and nature variables. Motivation for bonding and learning (about the natural environment) items were also key drivers for hunters as well as trampers. Socialisation motivations were more strongly evident among the mountaineers and trampers.

Constraints were itemised into four subscales: economic, skill, lifestyle and environment. Two activity-specific variables targeted responses from hunters and anglers, in an attempt to understand species-related constraints. Overall, most constraints were only of low importance for the respondents in this study, which is to be expected as most respondents were active outdoor participants. The only constraint to reach a moderate level of importance was a lack of time. While of lower importance overall, the cost of transport was a concern for some hunters and anglers. Regarding environmental constraints, crowding was a concern for some hunters, whereas the quality of the environment was a moderately significant constraint for anglers. For hunters and anglers accessing their resource (land, game) was also a moderately important constraint. For mountaineers and trampers, however, their most commonly noted constraints were skills or lifestyle related. Not having enough experience or lacking skills may be directly related to the technical requirements for mountaineering and the need/desire to recreate with other people.

This study is one of the first known to apply a modified version of the Sport Commitment Model to understand commitment to nature-based recreation activities. Four subscales, representing the constructs of Enjoyment,

Involvement Opportunities, Social Support and Psychological Commitment, drawn from previous work in this field, but mainly applied to sports activities, were applied in this study. Internal consistency indices (Cronbach's alpha) suggest that these are scales may be usefully applied in a recreational setting. Five socio-demographic variables: age, residence, education, income and gender, along with activity type (hunting, fishing mountaineering, tramping), and frequency of participation (behavioural commitment) were tested for influence on the above four constructs. Five of the seven variables were found to contribute significantly to the Psychological Commitment, Enjoyment, Involvement Opportunities, and Social Support constructs. Income, gender, activity type, and frequency were significant predictors of commitment and enjoyment; education, gender, activity type and frequency were significant predictors of involvement opportunities; and activity type and frequency were significant predictors of social support. .

Further statistical analysis using Structural Equation Modelling provided a more comprehensive picture of the influence of key variables on Psychological Commitment and subsequently on other key variables such as participation frequency and purchase behaviour. Through SEM we examined the relationship between the constructs of Enjoyment, Involvement and Social Support, and Commitment. In general our results align with previous applications of the Sport Commitment Model in the sporting sector (e.g. Casper et al 2007). We found Enjoyment and Involvement Opportunities to be significant predictors of Commitment. However, our results do differ from those in the sporting field in that Social Support was found to be only weakly linked with Commitment. Social Support was found, overall, not to be a statistically significant predictor, when the combined sample was considered. When SEM was undertaken for the separate recreational activities, some differences began to appear in the strength of the relationships between the constructs. Notably, for trampers, Social Support played a more significant role as a predictor of Commitment.

The SEM also clearly demonstrated that psychological Commitment is a significant predictor for behavioural commitment – as measured by the variables of participation frequency and activity-related expenditure (purchase). The Commitment-Participation relationship was strongest for the combined group of hunters/mountaineers. The Commitment-Purchase relationship was reasonably and consistently strong for all groups, but highest for trampers. Considering that the trampers in our sample did *not* have higher incomes than other participants, this suggests that propensity to spend on a recreational activity is more related to Commitment than income alone. The incorporation of demographic variables in SEM may further our understanding of Commitment and its link to Participation and Expenditure.

While the survey provided some rich data on behaviour, motivations, constraints and commitment, the addition of in-depth qualitative interviews allowed us to further explore a range of personal and environmental factors that were revealed to be linked to ongoing commitment and involvement. In particular, and considering the lack of lapsed participants in the survey, the interviews informed our understanding of the factors leading to lapsing, and how constraints to participation are addressed. It may be simplistic, but nevertheless accurate, to say that ongoing involvement/commitment to an outdoor activity requires that continuing to participate in that activity provides essential psycho-social and other benefits. This is why we devoted some time to exploring the motivations for and benefits of participation and trying to discern what are 'essential' needs and what are more peripheral needs. Providing an escape from the stresses of work (and family) life is a critical role of outdoor recreation. The uncrowded and natural environment is an essential element of the setting in which this escape and 'spiritual recharging' occurs. While for some, especially women, and especially trampers, the social component of outdoor recreation is important, for many, solitude and personal challenge (surviving on the basics in a challenging environment) is paramount. Interestingly, this observation lends weight to the findings of

the SEM, in which social support was important for trampers. Considering the strenuous and invigorating nature of outdoor recreation, and also considering that for many of our participants this was their main form of exercise, very few of our participants mentioned the physical exercise/fitness component of outdoor recreation as being important. Furthermore, for those who had lapsed from outdoor recreation, the physical exercise component was the most easily substituted, by other recreational activities.

What it is that keeps a person committed to their outdoor activity is thus deeply personal, and requires a careful consideration of the nature of the activity and the nature of the participant – the latter including the participant's recreation history, their formative experiences, the social support for their involvement (and this includes not only significant others in the way of partner, family and friends, but also mentors, clubs and organisations), their work status, and their 'other leisure' status. But to address this question for participants as a whole is more complex.

There were some common points among the committed recreationists in our study, most importantly, early and ongoing family involvement and support. This was abetted by the role of schools in sparking ongoing involvement, and by outdoor recreation clubs – especially supporting those moving to new locations, or taking up a recreation later in life. In circumstances when families played little part in fostering outdoor recreation, the role of formal education providers or youth movements (e.g. scouts) was important. While outdoor clubs in general received accolades, for many of our participants, they were irrelevant or relevant only for a short (yet critical) period in their lives. Clubs faced with declining membership (there is anecdotal evidence of this in New Zealand e.g. Dignan and Cessford 2009) – particularly with declining young adult memberships, need to consider the 'products' they offer. There is a challenge for clubs in *collectively* retaining members in an increasingly mobile society, particularly within the current model of small independent clubs that applies to many forms of outdoor recreation. Faced with accusations (from *some* of our participants) of elitism and sexism, and lack of programmes for families and younger members, along with the cost of some programmes, some clubs may need to reconsider their goals and the way they operate – especially if they are to retain a role in the inter-generational transfer of 'involvement'.

Regarding lapsing, in reality, we found that the distinction between commitment and lapsing was not as clear cut as it may initially have seemed. Rather than being able to dissect participants' lives into a series of distinct periods of involvement or lapsing, we found that because of substitution behaviour, recreation career paths more closely resembled a series of overlapping trails potentially associated with a number of outdoor activities. As one activity lapsed, another previously lapsed activity may resume, or a new activity be initiated. Lapsing in itself is complex – if there are demonstrated lapsing periods, they may be short-lived, long-lived or even permanent. Further complication is provided by lapsing being multidimensional. Lapsing is most obviously displayed by a physical abstention or exclusion from the activity. But for many participants, this was merely the outward manifestation of lapsing, and they retained their inner identities as participants – in the hope that they could resume their physical participation (even if sometimes this was not likely). In some cases of lapsing or 'partial lapsing' participants' physical involvement in the activity was, at least in part, substituted by a more cerebral, social or institutional involvement with the activity.

Considering individual recreationists' seemingly increasingly busy lives, the growing mobility within society, and of course, the increasing range of competing leisure activities, how can enduring participation in outdoor recreation activities be attained? The key to this is to make it easy for people to continue in their activities, and to overcome some of the obstacles they face at key phases in their lives – whether those are associated with

becoming a teenager, raising a family, moving to a new job, or suffering from reduced physical mobility in later life. Importantly, it must be borne in mind that lapsing from a particular outdoor recreation is not bad *per se*, if it is replaced by another activity that contributes to the personal wellbeing of the participant. Change is inevitable and expected, just as we change our hobbies, the types of books we read, the food we eat and our favourite TV programmes. Our interviews revealed that lapsing is common, and substituting behaviour is common, but 'lapsing to zero' involvement is uncommon.

6.1 Future research

Our sample of interviewees is characterized by being mainly middle class European New Zealanders (with some exceptions). We feel that there is a paucity of research that addresses active, lapsed or *potential* outdoor recreationists who do not fit this profile. While it is acknowledged that some groups are under-represented as outdoor recreation participants, and *under-researched*, including Māori, Pacific Islanders, other ethnic groups, disabled, and the aged (Booth, 1989; Dignan and Cessford 2009; Lomax, 1988; SPARC 2003), only more recently has the issue of *class* been raised as a potentially important determinant for participation. For example, for those of lower socio-economic status, of *any* ethnicity – what are the triggers for *their* engagement with the outdoors, and how do they manage to stay involved – or lapse, as the case may be? What are the barriers to their involvement? Future studies might focus on participants from 'low-decile' areas. Importantly, however, studies of this kind need to consider the diversity of nature-based outdoor activities (beyond the four 'traditional' activities addressed in this study) and the extent to which they are contributing to well-being across a range of ethnicities and economic strata (Reis *et al* 2010).

Secondly, research into outdoor recreation clubs is needed. Research that explores their membership profiles and how this is changing, which recreationists are retaining their membership, and why, who are leaving, and why. We need to explore the specific challenges associated with operating an outdoor recreation club in an environment that has changed dramatically since the period when most clubs were first established, to understand what elements of club membership are important for individuals, and to identify examples of 'best practice'.

Finally, and as previously noted (Booth *et al* 2010; Boyes and Zink 2005; Reis *et al* 2010), there has been a lack of research that specifically focuses on children's and young persons' perspectives of outdoor recreation in New Zealand. The interviews with committed recreationists undertaken for this study illustrate the importance of undertaking research not only on early childhood recreational 'nurturing', but of strategies for overcoming potential lapsing hurdles during secondary school years, in tertiary education, and in the immediate post-education years.

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APPENDICES

APPENDIX 1: Comments about Recreation Constraints

Type of Recreation Constraint	Specific Comments
Hunting	Comments
1080 (n = 13)	<p>1080 1080 poison drops, aerial spraying 1080 poisoning Aerial 1080 affecting wild game and other species 1080 poisoning of reasonably accessible areas Bloody 1080 is dropped everywhere or there shooting out of machines! DOC are 1080ing the deer population to marginal levels for hunting in the areas I hunt Poisoning 1080 in hunting areas Poison in relevant areas Poisoning of areas affecting access and ability to remove what is shot Recent poisoning drops for possum control Local area just been subject to 1080 drop Too much 1080 - absolutely knackers areas for several years.</p>
Family (n = 7)	<p>A one year old child! Dividing my time between family commitments(young children), and hunting is a challenge - money saved on meat purchase justifies continuing Family commitments. Family demands on time increasing Wife and kids Young family (x 2)</p>
Access, lack of (n = 14)	<p>Access (or lack off) to hunting spots or difficulty in being able to access them, reduction/loss of habitats. Effects of the likes of 1080 which limit areas able to be hunted and also put increased pressure on other areas that can be hunted Access and 1080 poison are main barriers Access being removed or made difficult by foreign landowners Access can be very restrictive Access is becoming an increasing issue in last few years Access to locations. Access issues to private land or across private land to public land and access issues to public lands that are leased. The indiscriminate widespread use of 1080 poison Ease of entry to doc land etc I am concerned about any suggestion along the lines of the foreshore and seabed saga. Everyone should have access to NZ's beauty for recreation. LAND ACCESS Landowners preventing access to state forest areas and idiots that support and allow the use of 1080 poison Locked up parts of the country - reserved for paying clients/overseas tourists. Too many others hunt the same areas as us Many small holdings with 'King of the Castle' attitudes mean former small game areas are hard to access. Many townies and greenies don't allow shooting or actively discourage it. Not always able to gain access through farmland to doc land</p>
Age/Health (n = 5)	<p>Age Age and health and fitness Age and health. Poisoning of habitat by idiots Bones starting to restrict movement, old age! Getting older</p>
Helicopter/commercial hunting (n = 5)	<p>Commercial Helicopter Hunting & WARO Commercial hunting of deer/DOC's indifference to poaching Heli-hunting is stuffing the Tahr/Chamois hunting resource Helicopters hunting animals and taking them from conservation areas Helihunting and other bad game management practices</p>
Time (n = 1)	<p>Enough days in the year / Work</p>

Habitat degradation(n=1)	Habitat degradation
Knowledge, lack of(n = 2)	Knowledge of areas to access - I grew up overseas. Local knowledge
Firearm restrictions (n = 1)	Limitations on the style of firearms allowed to be use, i.e. rimfire
Fitness, lack of (n = 2)	Not fit enough!!! Lack of fitness
Health (n = 5)	Recent heart operation. Must go slow for time being. I have some joints that dispute my plans-so far, I can ignore them Current health issue - dodgy hip Recovering from shoulder surgery Not so agile body as years ago!
Social barriers (n = 1)	Social Barriers for access to organised clubs - Transsexual
Weather (n = 2)	Weather Inclement weather
Fishing	Comments
Access (n = 23)	Access and environmental damage (x3) Access is becoming more difficult resulting in more anglers at popular places. Access issues and the damn weather lately Access restrictions are becoming more common. Dairying and other intensive land use is damaging the fishing environment Access to the private land is troublesome sometime Being forced away from areas by o/seas owners Closing of Rakaia river above white posts is annoying and unnecessary in my estimation Distance from good fishing Distance to destinations; unfamiliarity with new locations; young children Distance to good spots Lack of shore facilities Land access is becoming more of an issue than in the past Landowners charging for access. Pollution mainly from farming Mainly location. Distance to fishing areas can be prohibitive More restricted access to waterways Restricted access DOC. Restricted vehicle access River access can be an issue even though f fishers are careful Occupational Health & Safety rules restricting some access Overseas ownership of land and consequent denial of access to lake shores Wellington locality is tough trout fishing - have to travel Lack of easy access. i.e. land owners restricting what once was public access.
Laziness (n = 2)	Laziness Motivation
Weather (n = 8)	Bad weather impacting on high river levels The weather (x4) Main barrier is finding the time when the weather is good. Really bad weather Weather & river conditions
Young family/family commitments (n = 9)	Balance with other family activities Consideration of spouse Family, friends social activities ALWAYS clash with my fishing plans Family commitments Family time more important now Family time pressure/ commitment to 2 sons aged 13 & 11 & wife aged 47. I (we) have a baby daughter now and most of my free time is spent looking after her My wife doesn't like me fishing too often. I fish mostly at night after sun-down and she worries a bit. I have exceptionally good night vision. She likes eating trout so if I catch a reasonable one I always take it home. I need to keep my catch rate up or she complains so I have become very efficient at catching trout in a short time. I do secret recess in the day-time; identify trout locations, returning at night to nail them quickly. Small children

Cost, license (n = 5)	Cost of licence (x2) Crowding, pollution and restrictions on access Lack of Money Licensing fees
Pollution, Didymo(n = 18)	Dairy Farm run off!!!! Dairy runoff pollution in Canterbury... Dairying/livestock in water and Didymo Damage to local rivers by regional authorities DIDYMO Didymo is of great concern Didymo, access, lowland river pollution Earthquake - sewage being pumped into local river I use most!!! Environmental degradation from farming leading to algae blooms and less fish Local river is polluted following the CHCH earthquake Lowering water levels in rivers from irrigation draw off The deteriorating quality of many of the streams that I fish. The earthquake has meant local rivers are currently polluted and not able to be fished Rivers are being diminished due to present farming practise Water abstraction and pollution of local lowland rivers Water extraction by Council and pollution reduces fish numbers Water extraction due to irrigation ,pollution, access rights Rivers I used to fish no longer fishable due to dairying
Dams (n = 2)	Dams blocking rivers Hydro Development, need to be involved opposing development which takes up fishing time.
Fish stock, decline(n = 5)	Decline in salmon numbers Declining fish stocks becoming a problem Degradation of rivers streams and lakes Low fish stocks reduce motivation Not many fish
Age (n = 2)	Diminished energy for an old fellow! OLD age I am 80
Time (n = 19)	Enough annual leave! Time (x 4) Travelling overseas too often Financial, Time, Health Finding the time and transportation. I no longer live in close proximity to quality fishing waters. Not enough time for my many types of recreation Free Time Just too darn busy - I absolutely love fly fishing for the solitude and peace - I don't give a rats if I catch anything My other job Work (x2) Time and access Time and money...work Time, but retirement is approaching! Too many pursuits, not enough time Work get in the way of play
Alternative activity (n = 2)	I found motorcycling, again.
Knowledge, lack of (n =3)	Lack of knowledge of New Zealand laws New to area Quality of angler access information available
Health (n = 2)	Motor neuron disease Only my health
User conflicts (n = 2)	Overcrowding from Jet Boats Too many tourists
Skills, lack of (n = 2)	Skill level, confidence around others Training courses
Other (n = 4)	High river flows on days/times when free to fish Just retired so raring to go Snow rivers flooding Not being able to use felt soles in rivers. Felt is best product and dangerous not to be able to use them

Mountaineering	Comments
Age (n = 4)	Age: I am slowing down and carry the scars of youth, therefore I have to scale down the type of trips I can realistically achieve in the allotted time. Age! Age! Fitness! Increasing age
Health (n = 2)	Arthritis Slowly deteriorating knee joints
Weather (n = 5)	At times, weather and snow conditions for a whole season!! (and not wanting to travel the distance to get to good weather / snow - esp. when living near Ruapehu last year). Also, environmental considerations - doing things a bit closer to home rather than driving long distances (tho' still do this). And, having many friends who don't enjoy climbing - so, still want to spend time with them.... Definitely, the amount of time required to do good trips means that I do fewer of them as have other I Weather! (x2) Weather. Lack of time. Lack of fitness to do very hard trips. The fucking weather
Time (n = 3)	Being in full time employment Time Insufficient hours, days, weeks etc in the year. (Bugger!!)
Access (n = 5)	Distance and weather. weather is often unreliable and if you have to travel a long Distance to participate and spend a lot of money it makes you think twice I live in Wellington Lack of good quality, accessible rock! Long distance and travel time to recreation areas Geographic position. Time and expense getting to Southern Alps from North Island.
Family (n = 4)	Family commitments/parenting Family-related commitments Young children & work commitments Now have young children, so lack time to participate
Fear (n = 1)	Fear
Crowding (n = 1)	Foreigners in the parks makes me think about where I go and visit and at what time of year, weather of course has a lot to do with the type of activity,
Government (n = 1)	Green government goody goodies
Fitness, lack of (n = 2)	Lack of fitness and strength to carry heavy loads Lack of fitness required to do mountaineering
Cost (n = 2)	My paying job restricts my opportunities! ... but I need the \$\$\$s Occasionally, pressure of work
Alternative activity (n = 1)	Skiing/tramping more, climbing less
Other (n = 3)	Balance between family, career. Climate change and access to mountains is becoming more difficult and weather more unpredictable. Wife went overseas and spent all our money Being confined by work hours/days, no flexi-time and therefore less able to avail of good weather conditions. Access to some areas can be difficult e.g. after prolonged rain even 4WD tracks can be unpassable.
Tramping	Comments
Age (n = 9)	Age affecting physical strength Age! (x 3) Age. Tend to cycle more as can cover a bigger distance in shorter time for exploring Age/health Ageing process we age too quickly Old age prevents me from doing the sort of trips I want to do Getting old
Health (n = 7)	An arthritic knee. I'm not sure if this is considered a health reason in the question above Health problems Injuries (x2) Lack of free time Physical disability Presently having feet problems

Laziness (n = 1)	Laziness
Young family/family commitments (n = 10)	<p>Baby</p> <p>Busy at work, family commitments</p> <p>Currently breastfeeding baby. Two children under 3 makes it hard to get away.</p> <p>Dependants too young</p> <p>Having a baby</p> <p>Having a young family</p> <p>I have a young family which prevents me being away as much as I would like</p> <p>Motherhood</p> <p>My Wife is pregnant</p> <p>Too many children to look after</p>
Priorities, lack of (n = 1)	Choice in priorities
Cost (n = 2)	<p>Concerns about the cost of season fish license</p> <p>Cost and finding the time and people to go with me.</p>
Fitness, lack of (n = 3)	<p>Decline in physical fitness</p> <p>Fitness level, time to get fit</p> <p>Lack of personal fitness.</p>
Access (n = 9)	<p>Difficulty in finding legal public access</p> <p>DOC bureaucracy</p> <p>DOC's restrictive access policies</p> <p>Far away from Wellington - South Island could be hard / lot of driving</p> <p>Increasing transfer of tracks into the Great Walks category that restricts flexible access. Might suit overseas tourists who want to book well in advance but a hindrance for organising trips at short notice when opportunities arise.</p> <p>Limited areas to bring my dog tramping</p> <p>LOCATION</p> <p>Uncertainty around access to new areas i.e. who to contact to get permission etc</p> <p>Universal access/Land owner permission</p>
Cost (n = 4)	<p>Making a living gets in the way but is unfortunately necessary</p> <p>Money for petrol to get there, don't need money for anything else once you have the gear.</p> <p>The cost of accommodation limits me</p> <p>The cost of using the conservation estate due to the expensive facilities being established to meet the ever increasing tourist burden.</p>
Transport, lack of (n = 2)	<p>Public transport to and from tracks can be lacking.</p> <p>Return transport from trips that are not round trips.</p>
Time (n = 7)	<p>Time constraints</p> <p>Self employed workload/callouts etc</p> <p>Work cannot be predicted.</p> <p>Work!</p> <p>Time to get away because family commitments are high (e.g. supporting kids when they are in their structured sport and recreation activities in the weekend)</p> <p>Getting Time off work</p> <p>Time and I am getting older, my head and my body are in to different spaces....I am in very good shape for my age!</p>
Weather (n = 13)	<p>Adverse weather conditions which make going tramping too dangerous/risky</p> <p>Bad weather (x2)</p> <p>Unpredictable weather and lack of like-minded companions</p> <p>Weather (x 6)</p> <p>Weather can be a limiting factor - snow, flooding, etc</p> <p>Weather conditions</p> <p>Weather patterns coinciding with time off</p>
Other (n = 2)	<p>Spend more time Rock climbing than Tramping - unfortunately this survey doesn't see rock climbing as separate as mountaineering.</p> <p>1. Lack of suitable people of like mind and experience for longer / harder trips, who can be available at the same times as I have spare time 2. Commercial trips monopolising some routes 3. The fact that I'm not supposed to tramp alone is the MOST IMPORTANT barrier 4. The strong chance of a vehicle at road-ends being broken into or stolen 5. Not being sure there will be space in huts if I'm not tramping with tenting equipment. 6. I'd like to emphasise that I DON'T find mountain bikes a problem</p>

APPENDIX 2: Questionnaire: Cover Sheet

To the Participant

OUTDOOR RECREATION STUDY

The Centre for Recreation Research, University of Otago, is undertaking a study on the use of the great outdoors for recreation by New Zealanders. The main objective of the study is to assess the levels of commitment and 'enduring involvement' in a number of key outdoor recreational activities, and assesses the importance of a range of personal, social and environmental influences upon commitment and enduring involvement.

It would greatly help planning for New Zealanders' future recreation, if you could spend 5-10 minutes of your time completing this questionnaire, and returning it in the postage-paid envelope.

The questionnaire is anonymous – you will not be identified when these results are analysed. All the questionnaires will be analysed together, and the results treated confidentially. If you have any questions about this questionnaire or our research, please contact us – our details are below.

Many thanks for your help!

"The team" at Centre for Recreation Research

Centre for Recreation Research, Department of Tourism
PO Box 56, Dunedin, New Zealand
Tel 64 3 479 5866 Fax 64 3 479 9034
Email recreation.research@otago.ac.nz
www.crr.otago.ac.nz

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PRIZE DRAW FOR \$400 WORTH OF KATHMANDU or WAREHOUSE GIFT VOUCHERS
(1st prize \$200, plus 2 x \$100 prizes)

Please return completed questionnaire before 1st September 2010 to be entered into the Prize Draw

To enter the PRIZE DRAW please fill in the following details, detach and post with completed questionnaire:

Name: _____

Postal Address: _____

E-mail Address: _____ Phone Number: _____

APPENDIX 3: Information Sheet for Participants

Understanding commitment and enduring involvement in outdoor recreation in New Zealand

Thank you for showing an interest in this project. Please read this information sheet carefully before deciding whether or not to participate. If you decide to participate we thank you. If you decide not to take part there will be no disadvantage to you of any kind and we thank you for considering our request.

What is the Aim of the Project?

To assess the levels of commitment and 'enduring involvement' in a number of key outdoor recreational activities, and assesses the importance of a range of personal, social and environmental influences upon commitment and enduring involvement in New Zealand.

What Type of Participants are being sought?

Both lapsed and highly committed/involved participants from mountaineering/ climbing, tramping, hunting and fishing organisations in New Zealand, over 18 years old.

What will Participants be Asked to Do?

Should you agree to take part in this project, you will be asked to complete a short interview. This interview will take up to one hour.

Can Participants Change their Mind and Withdraw from the Project?

You may withdraw from participation in the project at any time and without any disadvantage to yourself of any kind.

What Data or Information will be Collected and What Use will be Made of it?

The data that will be collected through an informal, semi-structured interview. We seek your views on the following topics:

- Your current recreational use of the outdoors.
- Your desired recreational use of the outdoors.
- Constraints to your recreational use of the outdoors
- Motivations to your recreational use of the outdoors
- Types of involvement and frequency
- Commitment to outdoor recreation

Note: This project involves an open-questioning technique where the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops. In the event that the line of questioning does develop in such a way that you feel hesitant or uncomfortable you are reminded of your right to decline to answer any particular question(s) and also that you may withdraw from the project at any stage without any disadvantage to yourself of any kind.

The data and information collected will only be accessible to the researcher. Results of this project will be published in internationally refereed tourism journals. Any data included will in no way be linked to any specific

participant. Every effort will be made to preserve participant anonymity. The research process involves taping the interview and then using a professional transcribing service to produce a written transcript of the interview. Participants will also be advised how to access any publications that may arise from this research.

The data collected will be securely stored in such a way that only the researcher will be able to gain access to it. At the end of the project any personal information will be destroyed immediately except that, as required by the University's research policy, any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed.

What if Participants have any Questions?

If you have any questions about our project, either now or in the future, please feel free to contact:-

Dr. Brent Lovelock
Department of Tourism
University of Otago
PO Box 56
Dunedin
Ph 64 3 479-8520
Fax 64 3 479-9034
Mob 021-0493546
brent.lovelock@otago.ac.nz

APPENDIX 4: Consent Form

Understanding commitment and enduring involvement in outdoor recreation in New Zealand

I have read the Information Sheet concerning this project and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage. I know that:-

1. My participation in the project is entirely voluntary;
2. I am free to withdraw from the project at any time without any disadvantage;
3. The data [interview transcripts and tapes] will be destroyed at the conclusion of the project but any raw data on which the results of the project depend will be retained in secure storage for five years, after which it will be destroyed;
4. The questions being asked are entirely opinion based, and I can give whatever answer I see fit.
"this project involves an open-questioning technique where the precise nature of the questions which will be asked have not been determined in advance, but will depend on the way in which the interview develops and that in the event that the line of questioning develops in such a way that I feel hesitant or uncomfortable I may decline to answer any particular question(s) and/or may withdraw from the project without any disadvantage of any kind."
5. I understand that I do not have to answer a question if I feel at risk or uncomfortable.
6. This questionnaire is entirely voluntary.
7. The results of the project may be published but my anonymity will be preserved.

I agree to take part in this project.

Name of participant

Signature of participant) Date.....

The Department of Tourism, University of Otago, Ethics Committee has reviewed and approved this project.

APPENDIX 5: Interview Schedule

Interview Schedule
Current Recreationists
<ul style="list-style-type: none"> • Please describe involvement with recreation activity <ul style="list-style-type: none"> ○ When did you start? ○ Why did you start? ○ How often do you participate? ○ Where do you normally participate • How involved are you? • What motivates you to participate? • What keeps you interested in participation? • Are there any constraints that inhibit your participation? Why? • Have you ever needed to give up your activity for a length of time? Why? • Have you considered giving up your activity? • What would be the most ideal recreation experience for you? • Do you have future plans for your recreation? • What other outdoor recreation activities do you participate in?
Lapsed Recreationists
<ul style="list-style-type: none"> • Please describe past involvement with recreation activity <ul style="list-style-type: none"> ○ When did you start? ○ Why did you start? ○ How often did you participate when you were active? ○ Where did you recreate normally? • When you were active, were there any constraints that inhibited your participation? • Why did you stop participating? • What would have stopped you from giving it up? • What is the best thing about giving it up? • What is the worst thing about giving it up? • What other activities do you now participate in? <ul style="list-style-type: none"> ○ Do you consider these activities a good substitute? Why or why not? • Are you still involved in any way with your past activity? <ul style="list-style-type: none"> ○ For example, are you still a member of a club, read magazines/literature? • Do you have plans in the future to reengage in the activity? <ul style="list-style-type: none"> ○ How do you plan to reengage?
All Recreationists
<ul style="list-style-type: none"> • Name • Activity (current or lapsed) • Age • Employment • Family (dependents) • Activity experience level

APPENDIX 6: Dissemination, Consultation and Research Capability

1. Dissemination Plan and Consultation with Stakeholders:

- (i) Report provide to SPARC October 2011
- (ii) Preliminary findings presented to stakeholders at the *Outdoors New Zealand 2011 Outdoor Forum*, Wellington, 28-29 October 2011.
- (iii) Presentation to stakeholders at the *Public Conservation Lands 2040 Research Symposium*, Dunedin, 8-9 November 2011.
- (iv) A complete report of the findings is published as a University of Otago, Centre for Recreation Research, working paper, and will be hosted on the CRR website (in PDF format). Stakeholders will be notified by email.
- (v) Copies of this report will be provided to key stakeholders: Fish and Game New Zealand, New Zealand Deerstalkers Association, New Zealand Alpine Club, New Zealand Mountain Safety Council, Federated Mountain Clubs of New Zealand and the Department of Conservation.
- (vi) Academic publications that arise from this study will be forwarded to SPARC for listing on the SPARC website. On the CRR website, details and URLs will be provided for the relevant journals/articles arising from the study.
- (vii) Copies of the complete report will be made available through public libraries in main centres and at university libraries in New Zealand.

2. Research Capability Development

- (i) Development of post-graduate research expertise in migration/recreation research: This project involved the employment of a PhD student for approximately 600 hours of research assistance in the quantitative and qualitative components of the research. Key areas of development for the student were in questionnaire design, survey and interview administration, and statistical analysis.
- (ii) For both the primary investigator and associate researcher, the project enhanced their research strengths in the field of recreation involvement/commitment. The project has grown the capacity of the Centre for Recreation Research to undertake further research in this field.
- (iii) The research fostered the creation of an informal research-oriented network involving staff from key stakeholder organisations. Research connections were established with Fish and Game New Zealand and other key outdoor organizations, including many tramping and mountaineering clubs, and branches of the New Zealand Deerstalkers Association.

APPENDIX 7: Survey Questionnaire (hunting example)



CENTRE FOR RECREATION RESEARCH
SCHOOL OF BUSINESS