

THE HUMAN MOTIVATION OF ADVENTURE TOURISM AND  
HIGH RISK SPORT PARTICIPATION

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## **ABSTRACT**

The purpose of the present study was to establish whether sensation seeking, achievement, and social desirability are important motives for participation in the high risk sport, rock climbing, and for the adventure tourism activity, bungee jumping. In addition, the study sought to establish whether the decision to bungee jump is made on impulse, or after careful consideration, and whether any other possible motives exist for high risk sport and adventure tourism participation.

Thirty rock climbers (21 males and 9 females), thirty bungee jumpers (18 males and 12 females), and thirty control subjects (13 males and 17 females) completed a background information questionnaire containing demographic information, a specific impulsive question, and a four-point Likert scale containing reasons for participation or non-participation; Zuckerman's Sensation Seeking Scale, Form V; Nygard and Gjesme's Achievement Motives Scale; and the Marlowe-Crowne Social Desirability Scale.

ANOVA results suggest that sensation seeking is an important motive for bungee jumping and rock climbing (especially the thrill seeking and adventure dimension, and the experience seeking dimension), but that there is no difference between these two activities in this motive. The achievement motive was found to be particularly important for rock climbing, but only moderately so for bungee jumping. The need to be socially desirable was not found to be an important motive for either bungee jumping or rock climbing participation,

although results from the Likert scale, and individual feedback suggest that more research needs to further investigate the social desirability motive.

Results from analysis to the impulsive question indicate that, in general, the decision to bungee jump is made on impulse, while the decision to participate in rock climbing is made with some thought to other factors. Other motivations for high risk sport and adventure tourism that were encountered in the study which should be further investigated, include enjoying the environment; fitness; interest in the technology; helping to achieve other goals for related disciplines; improving holiday quality; and curiosity. Future research investigating the motivations of other adventure tourism activities in relation to gender, age, and cultural differences would be useful.

## **CHAPTER ONE**

### **INTRODUCTION**

Adventure tourism is one of New Zealand's biggest growth industries, with people travelling from all over the world to experience enjoyable but frightening activities. Such activities include bungee jumping, which involves jumping off an extremely high structure attached only by a rubber cord tied around the ankles; white water rafting which involves manoeuvring an inflatable raft down a rocky rapid river; and paraponting which involves stepping off the side of a mountain while wearing a parachute. The growth of the adventure tourism activity industry has been phenomenal. For example, A J Hackett opened the first commercial bungee jumping site in 1988, and since then, there has been almost one million incident-free jumps (<http://bungee.jump.com/>). While there is now a large range of adventure tourism activities available in New Zealand, what unites them as a group is the high degree of risk involved, and the intent to thrill and excite the participant.

Considering the growth rate of adventure tourism, it is surprising that to date, there has been little psychological research investigating the motivational aspects of this unusual group of activities. There has, however, been a number of investigations into the motivational factors underlying a similar area of interest, high risk sports. While adventure tourism activities and high risk sports are alike in that they both involve risk and a thrill, they also have

important differences which may lead to differing motivational forces behind the two groups of behaviours. Firstly, adventure tourism activities are fundamentally different from high risk sports in that they require little or no skill and knowledge to participate. For example, when Middleton and her colleagues interviewed seventy-eight bungee jumpers in their study of perceptions of safety in bungee jumping, they observed that no training talks were given prior to jumping, and that the jumpers seemed uninterested in learning the procedures for securing the ankle harness (Middleton, Harris, & Surman, 1996).

Secondly, they differ from high risk sports because the participant has no control over the risk, and his or her safety is entirely in the hands of the tour operator. Finally, participation in high risk sports demands practice and learning so the decision to participate has to be made with some thought to availability of time, other commitments, and ability. Adventure tourism is different in this respect because the decision to engage in an activity can be made impulsively and carried out almost immediately.

This study investigated and compared the motivational factors behind adventure tourism and high risk sport participation by questioning individuals who have bungee jumped and individuals who are rock climbers. These two pastimes were selected because subjects in a previous study rated them the activities that they were most likely to engage in out of a choice of eight high risk pursuits (Pedersen, 1997). In addition, the research examined whether the decision to take part in rock climbing or bungee jumping is impulsive or made after careful consideration. The remainder of this chapter will contain a review of

the literature on the three identified motives relevant to high risk sport and adventure tourism, namely sensation seeking, need for achievement, and social desirability. Finally the aims and objectives of this study will be presented.

### **1.1 Risk Taking and Sensation Seeking.**

During the first half of this century, it appears that physical risk taking was considered by psychologists to be a counterphobic behaviour expressive of a death wish, and as such, was viewed as evidence of pathology (eg: Deutsch, 1926; Adler, 1930; Fenichel, 1945) The current, more liberal view reflected in psychological literature is that risk taking is a normal part of human behaviour (Slanger & Rudestam, 1997). The desire to take risks is best explained by Hebb's 1955 optimal-arousal theory of motivation which proposes that the relation between arousal and behavioural efficiency can be represented by an inverted U-shaped function (Franken, 1988). This theory suggests that people function optimally when their arousal is kept at a moderate level, and that this level differs among individuals. People are therefore motivated, or reinforced, to engage in behaviours which maintain their arousal at this level. Optimal-arousal differs from simple drive theories of motivation because it suggests that physical pursuits are perceived to be rewarding with either a decrease or an increase in stimulation. Drive reduction can still be considered rewarding but only when the current levels of arousal are higher than the individual's optimum level. When arousal levels are lower than the optimum, increases of arousal are predicted to be reinforcing (Hoyenga & Hoyenga, 1984).

Concomitant with the theory of optimal-arousal is the concept of sensation seeking. These two ideas are linked because sensation seeking behaviour offers a way to increase an individual's arousal to a more pleasurable level should it be lower than his or her optimum level. Sensation seeking is a trait defined by "the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and financial risks for the sake of such experiences" (Zuckerman, 1994). The tool that is most commonly used in the literature to measure sensation seeking was originally devised by Marvin Zuckerman and colleagues in 1964 and has since then been revised a number of times before the development of the current Sensation Seeking Scale, Form V (SSS-V) which is used today. The SSS-V has been used and validated repeatedly, and has shown good cross-gender and cross-cultural replicability throughout its development (Zuckerman, 1994).

The SSS-V, which is presented in Appendix B, consists of a forty question forced-choice questionnaire with four different subscales, the first of which is the Thrill and Adventure Seeking subscale (TAS). TAS denotes the desire to take part in dangerous and adventurous physical activities which are capable of giving strong and unusual sensations. Examples of statements on the SSS-V used to measure this attribute include "I sometimes like to do things that are a little frightening" and "I like to dive off the high board."

The Experience Seeking (ES) subscale involves the seeking out of unusual experiences or sensations by means of travel, art, and music, and maintaining a nonconformist lifestyle. Statements on the SSS-V which demonstrate this trait

include “I would like to take off on a trip with no preplanned or definite route or timetable” and “I have tried marijuana or would like to.”

The third subscale, disinhibition (DIS), measures the desire for social and sexual disinhibition, as expressed in drinking, partying, gambling, and sexual activity. Disinhibition is measured by such statements as “I like wild uninhibited parties” and “Keeping the drinks full is the key to a good party” on the SSS-V.

The final subscale is referred to as Boredom Susceptibility (BS) and measures an aversion to repetitive, monotonous, boring activities both in work and in social context, and the tendency to be irritated when these situations appear inevitable. Examples of statements which indicate a high BS include “I can’t stand watching a movie that I’ve seen before” and “I get bored seeing the same old faces” (Zuckerman *et al*, 1972).

Risk taking is now generally seen to be motivated by sensation seeking, and previous research has shown that there are vast differences among individuals in their tolerance of, and preference for high levels of stimulation (eg: Zuckerman, 1974, 1985; Feiji, Orlebecke, Gazendem, & Van Zuilen, 1985; Farley, 1986; Rowland, Franken, & Harrison, 1986). Thus one motivating force behind an individual’s choice to participate in both high risk sport and risky adventure tourism activities is likely to be a tendency to sensation seek.

## **1.2 Sensation Seeking and High Risk Sport.**

The majority of studies investigating the motivation for high risk sport participation have focused on sensation-seeking levels as a causal factor, and have generally found that individuals involved in high risk sport are high in sensation seeking. A review of the literature reveals ten studies conducted in the area of sensation seeking and high risk sport participation. The earliest of these studies was conducted by Hymbaugh and Garrett (1974), who predicted that skydivers would score significantly higher on the Zuckerman Sensation Seeking Scale than non-skydivers. The SSS was administered to twenty-one skydivers and twenty-one non-skydivers, and the results were consistent with predictions. That is, one motivational force behind skydiving appears to be a need to experience a thrilling, exciting, disinhibited and new sensation.

A study by Straub in 1982 examined sensation seeking levels in two groups of high risk male sport participants, and compared them with a group of low risk male sport participants. Thirty-three hang gliders, twenty-two automobile racers, and twenty-five bowlers were administered the SSS-V, and the total sensation seeking score was obtained, along with the four subscale scores. The results from this study showed that high risk sport participants in hang gliding and automobile racing, on average, scored significantly higher in sensation seeking than the low risk sport participants involved in bowling. With regards to the subscales, this study showed that high risk sport athletes scored significantly higher than the low risk athletes on the dimensions of boredom susceptibility and experience seeking, but were similar on the thrill and adventure seeking, and disinhibition subscales.

Another study examined the motives of individuals who have regular, long-term involvement in the high risk sport of rock climbing (Robinson, 1985). With regard to the motive of sensation seeking, this study found that in comparison with the normative data available for American undergraduate males, elite rock climbers scored significantly higher on the total score of the SSS-V, and on the TAS and ES subscales. Interestingly, all the rock climbers stated that “a lack of regular and intensive physical activity caused frustration and a desire for action,” and at least seventy per cent of the climbers expressed a preference for climbing at the limit of their ability rather than repeating easier routes. In addition, when asked which sport they would choose if they were to replace rock climbing, all the subjects chose alternative high risk sports, namely hang gliding, kayaking, and skiing.

Bouter and colleagues (1988) investigated sensation-seeking levels in skiers who had previously been injured while skiing. They predicted that skiers who have accidents take risks in their sport which outweigh their ability, presumably because of a high need to sensation seek. The study compared sensation-seeking levels in injured skiers and non-injured skiers, and showed that, when gender and age were accounted for, the injured skiers did not show significantly higher scores than the non-injured skiers on the SSS-V for the total scores, the ES subscale, the DIS subscale, or the BS subscale. Additionally and contrary to expectations, the non-injured skiers had stronger thrill and adventure tendencies than their previously injured counterparts as demonstrated in their TAS scores. However, the injured and non-injured skiers

combined had higher total SS, TAS and BS scores than non-skiers, indicating that this high risk sport attracts adventurous individuals.

In 1991, Freixanet investigated the personality profiles of subjects who engaged in high physical risk-related sports. In this study, four different groups of sportsmen were administered a number of different personality tests, one of which was the Zuckerman SSS-V. The first group consisted of twenty-seven alpinists who had all participated in expeditions to the Himalayas at altitudes greater than 8000 metres. The second group was entitled 'mountaineering-related sportsmen,' and composed of fifty-two mountain climbers and twenty mountain skiers. 'Sportsmen not related with mountaineering' was the third group, and consisted of 221 men from a number of different risky sports background, including scuba diving, parachuting, hang gliding, and power-boat racing. The final control group involved fifty-four subjects who did not engage in any kind of risky sporting activity. The results from this study showed that the three risky activities groups were significantly higher than the control group on the TAS and ES subscales, and on the total SS scores. The three risky sport groups did show higher scores than the control group on the DIS and BS subscales as well, but not to a significant level. Thus the data from this study supported the relationship between sensation seeking and participation in risky sports.

A similar study carried out in the same year also investigated the sensation seeking nature of mountain climbers. Cronin (1991) administered the SSS-V to twenty members of a university mountain climbing club, and to twenty-one

control volunteers. This study confirmed the results found by Freixanet (1991), and found that mountain climbers scored significantly higher on the TAS and ES subscales, and on the total SS score than did control subjects.

A further study of the sensation-seeking trait in mountain athletes (as representative of high risk sports people) was conducted in Italy by Rossi and Cereatti (1993). As well as testing the hypothesis that high risk sports are chosen by high sensation seekers, this study examined differences between the four mountain disciplines of free-climbing, alpinism, caving and ski jumping. The results again demonstrated that mountaineers have considerably higher SS scores than controls on all the measures excluding boredom susceptibility. They also showed that the free climbers scored lower than the other three groups on TAS, and lower than the alpinists and cavers on ES, but higher than the ski jumpers.

Rainey, Amunategui, Agocs and Larick (1992) produced different results from the studies reviewed thus far. In their study the sensation-seeking performance of male college rodeo athletes was compared with that of hang glider pilots, college wrestlers, and baseball players. Because of the high risk involved in many rodeo events, and the low risk involved in baseball and wrestling, the authors hypothesised that rodeo athletes would score higher than wrestlers and baseball players, but similar to hang gliders.

The results only provided partial support for the hypothesis. Rodeo athletes did score higher on the SSS-V than baseball players, but they did not score

significantly higher than the wrestlers, and scored significantly lower than the hang glider pilots. Thus, the theory that rodeo athletes may be motivated to participate in their sport by a need to sensation seek was not fully supported by this study. Because these findings differed from other high risk sport literature, the authors postulated that the motivation to compete in rodeo may have more to do with cultural history than sensation seeking. However, it should also be noted that the sample size of rodeo athletes in this study was only nineteen, and all the subjects were from the same college. Thus a larger sample of rodeo athletes from a broader setting may have lead to results more in keeping with the rest of the high risk sport literature.

The studies reviewed so far have only examined the sensation seeking needs of participants in one or more high risk sports, and have simply compared them with control subjects. One more recent study by Slinger and Rudestam (1997) has taken a slightly different approach, and examined sensation seeking in the context of differing degrees of risk extremity. Study participants were drawn from four different sporting groups: rock climbing, kayaking, skiing and piloting a small plane. Three different groups were identified, the first of which was the extreme risk takers comprising of rock climbers who climb without a harness; skiers who ski in such dangerous areas that if they fall, they die; pilots who practice low altitude aerobatics; and kayakers who regularly negotiate grade five and six white water rapids. The second group consisted of high risk takers and included rock climbers who do not climb difficult courses unharnessed; very accomplished skiers who do not ski extreme terrain; pilots who perform high altitude acrobatics only; and kayakers who do

not attempt grade six waters. The final group was comprised of regular athletes involved in more 'every day' sports and who competed at national and world class level.

The participants were administered six different scales, one of which was Zuckerman's SSS-V, although the authors chose only to examine the TAS subscale and the total sensation seeking score. On the TAS factor, there was a significant difference between the low risk athlete group, and the combined extreme and high risk groups, but no significant difference between the extreme and high risk groups. On the total sensation seeking score there was no significant difference between any of the three groups, but all three groups scored far higher than the general population on this measure. This study therefore suggests that a need to sensation seek may motivate athletes in general, but that extreme risk taking does not necessarily reflect exceptionally high sensation-seeking needs.

A final study investigating the sensation-seeking needs of sports people was conducted by Schroth (1995) who examined sensation-seeking levels of different groups of athletes and non-athletes of both sexes. He found that male athletes scored higher than male non-athletes, and that female athletes also scored higher on sensation seeking than female non-athletes. However, both groups of males (athletes and nonathletes) exhibited stronger sensation-seeking needs than their female counterparts. One finding from this study which is interesting in terms of risk is that contact sport athletes were much higher than non-contact sport athletes in sensation seeking. This can be explained by the

fact that contact sports, such as rugby, do contain a greater element of physical risk than do non-contact sports. These results further demonstrate that people high in sensation seeking will be more likely to play riskier sport than people with lower levels.

### **1.3 Sensation Seeking and Adventure Tourism.**

Only one study has been conducted in the area of adventure tourism motivation. In 1997, Michel, Carton and Jouvent investigated the relationship between sensation seeking and anhedonia in eighty individuals who had bungy jumped, and one of the main aims in this study was to compare the sensation-seeking dimension among bungy jumpers with control group subjects using the subscales of the SSS-V. Results showed that for both men and women, thrill seeking and adventure was a significant motivating factor in bungy jumping, and that bungy jumpers were more susceptible to boredom than were controls.

A J Hackett, the pioneer of commercial bungy jumping, also indicates that sensation seeking is an important motivational factor for bungy jumping participation. He states that bungy jumping gives people the “opportunity to experience a totally uncensored rush of emotional energy” and that jumpers often “laugh, scream or cry” ([www.ajhackett.com/facts.htm](http://www.ajhackett.com/facts.htm)). Such an intense emotional experience would increase an individual’s level of arousal to their optimum, and thus from observation, it appears that a desire to increase arousal levels by sensation seeking may be an important motivating factor underlying bungy jumping.

#### **1.4 Achievement Motivation.**

Another motive which is relevant to this study is the need to achieve. Many theories have been developed in effort to explain why some individuals are more driven to succeed than others, the most common of which is an incentive based-theory developed by Atkinson. Atkinson's achievement theory has received its strongest support in the area of risk preferences (Weiner, 1978). According to this theory, people who have a strong achievement motive are maximally motivated by and attracted to tasks of skill in which success is only moderately probable (Hoyenga & Hoyenga, 1984). Thus it follows that such individuals would be attracted to pastimes which offer a challenge such as the type found in high risk sport participation.

The procedure commonly used to measure achievement motivation is referred to as the Thematic Apperception Test (TAT) and involves story-telling on behalf of the subjects. However, this method of measurement has been problematic as far as reliability and validity are concerned, and the procedure is complicated and time consuming both in administration and in scoring (Man, Nygard & Gjesme, 1994). In addition, while the TAT has had some success in measuring the achievement motive in men, there is a great deal of controversy over whether it measures the same thing in women (Franken, 1988).

Consequently, Norwegian motivational researchers have developed the Achievement Motives Scale (AMS) which is a self-report instrument on which respondents are required to rate fifteen achievement-related statements on a four point Likert scale where 1 = is not true of me, and 4 = is very true of me. The AMS is presented in Appendix C. This scale is far easier to work with, and

has been used in a variety of recent studies with great success (eg: Halvari, 1990; Martinsen, 1994; Depreeuw, Lens, & Van Horebeek, 1995). The AMS has been evaluated in terms of reliability, and was found to have an adequate reliability as long as it is used in basic research concerning relationships between variables or differences between groups, as opposed to making decisions on an individual level. The validity of the AMS has only been examined by comparing the AMS scores of school children with their exam marks, and while this showed that the AMS was a valid test, further investigations need to be carried out in other contexts (Man, Nygard & Gjesme, 1994).

### **1.5 The Achievement Motive and High Risk Sport.**

Research into literature which examines the need for achievement in high risk athletes reveals only three studies of relevance. The first study was Robinson's (1985) investigation of the behavioural characteristics of elite rock climbers. The results indicated that the rock climbers possess a moderate to high achievement motive as measured by TAT. Although their need for achievement was not significantly higher than the normative data, at least 97% of the climbers consciously set themselves specific climbing goals to achieve, and 90% considered themselves to be still improving in their climbing technique. The indiscrepancy between the statistical analyses and the verbal findings may reflect the inadequacy of the TAT as a suitable achievement motive measure.

Halvari (1997) examined correlations between achievement motives and performance in high school wrestlers. While not all commentators would

classify wrestling as high risk, Rainey *et al* (1992) suggested that there is a higher degree of risk involved than in other school sports such as baseball, and after all, wrestling is a contact sport which can result in bodily harm. Halvari employed the AMS and found that 59% of the preadolescent sample, 78% of the adolescent sample and 65% of the young adult sample were high in the motive to achieve success, suggesting that that the need to achieve may be a motivating factor in wrestling participation.

Finally, Slanger and Rudestam (1997) reported that 85% of the participants in the combined higher risk groups identified a desire for mastery and achievement. Some of the feedback given concerning reasons for participation in high risk sport included “rising to the challenge,” “wanting to be my best,” and “testing my limits.” When asked directly whether desire for mastery and achievement was a motivating factor, all but three of the subjects answered that it was. Furthermore, when discussing ‘desire for thrill’ as a motive for high risk sport participation, subjects indicated that not only was it desire for the thrill associated with thrill seeking, but also a desire for the thrill of having accomplished the feat, or of having done it well.

### **1.6 The Achievement Motive and Adventure Tourism.**

While no research has been carried out into need for achievement and participation in adventure tourism activities, it is interesting to note that A. J. Hackett considers the main benefit of completing a jump is “a huge sense of achievement,” and that people who bungee jump have “pushed beyond and extended their personal limits.” He even goes on to say that such people

“change their own lives through a greater sense of self worth and achievement” ([www.ajhackett.com/facts.htm](http://www.ajhackett.com/facts.htm)). These comments indicate that bungee jumpers may be motivated by the need to achieve something, even though they are not acquiring any tangible skill or ability.

### **1.7 Social Desirability.**

The need for social approval, or the social desirability motive, is the need of individuals to obtain approval of others by responding in a culturally appropriate and acceptable manner (Crowne & Marlowe, 1960). The most commonly used social desirability test is the Marlowe-Crowne Social Desirability Scale (M-CSD) which is based on people’s tendency to claim highly desirable but improbable traits for themselves and to deny having undesirable yet common traits (Hoyenga & Hoyenga, 1984). For example, a response of “true” to the statement “when I don’t know something I don’t at all mind admitting it” and a response of “false” to the statement “there have been times when I was quite jealous of the good fortune of others” are scored as indicating a motive for social approval. The full version of the M-CSD is presented in Appendix D. The reliability of the M-CSD has been determined by obtaining internal consistency and test-retest coefficients during the tests development, and both these coefficients were recorded as .88. Thus these correlations indicate that reliability was very satisfactorily achieved. The validity of the M-CSD has also been deemed acceptable as the scores from this scale correlate strongly with other tests designed to measure social desirability such as the Edwards Social Desirability Scale, and variables on the Minnesota Multiphasic Personality Inventory (Crowne & Marlowe, 1964). Even though the

M-CSD was devised some time ago, the scale is still commonly used in a diverse range of contexts. For example, it was administered in an investigation into perceived parental behaviour (Gooden & Struble, 1990) and in a study researching the effects of one's given name on self esteem (Joubert, 1991).

People who are high in this motive are assumed to highly value how others evaluate them. As "to say I've done it" is often given as a reason for participation in high risk sport (Slanger & Rudestam, 1997) and adventure tourism ([www.ajhackett.com/facts.htm](http://www.ajhackett.com/facts.htm)), then it is reasonable to assume that this motive may be present in such activities. Unfortunately, to this authors knowledge, there is as yet no research investigating the need for approval in relation to either high risk sport or adventure tourism. However, Michel, Carton and Jouvent (1997) noted three different motivational categories of bungy jumpers in their French study; personal motivation, professional motivation, and group motivation. The latter category referred to individuals who had bungy jumped because their friends "led them to it" and as such, acknowledges that the motivation to bungy jump may have social influences.

### **1.8 The Present Study.**

The main focus of the present study was to establish whether the need to sensation seek, the need to achieve, and the need to gain social approval are significant motives for participation in the high risk sport, rock climbing, and the adventure tourism activity, bungy jumping. In order to measure these particular motives, the SSS-V, the AMS, and the M-CSD were administered to bungy jumpers, rock climbers and control subjects. In addition, the rock

climbing group and the bungee jumping group were asked to rate the personal importance of six motivational reasons for activity participation, and asked if any other reasons contributed to their decision to participate. These two groups were also asked if their decision to partake in their activity was made impulsively.

It was predicted that the individuals who engaged in adventure tourism activities would be motivated mainly by sensation seeking and social desirability, and would have decided to participate impulsively. This is because adventure tourism involves “getting a quick thrill,” which is attractive to the high sensation seeker. Individuals high in sensation seeking tend to participate in a large range of physical activities, but remain in the activity for shorter periods of time (Rowland, Franken & Harrison, 1986), and this characteristic suits the nature of adventure tourism where participants do not have to learn and practice the sport. Social desirability was hypothesised to be important to the adventure tourist because such activities are often carried out in groups with friends, and a common reason given for why individuals participate is, ‘to say I’ve done it,’ and, ‘because my friends were doing it.’ The adventure tourism group may also show a moderate need for achievement, but this motive was expected to be weaker than in the high risk sport group.

The second hypothesis was that individuals involved in the high risk sport of rock climbing would be motivated chiefly by a need to achieve, and would have decided to participate in the sport in a less impulsive manner than bungee jumpers. This is because related research has indicated that mastery and

personal achievement is just as important to high risk athletes as getting a thrill. Also, impulsiveness could actually hinder sports people who have to take calculated risks and learn skills before climbing. While the high risk sport athletes were expected to be higher on sensation seeking than the controls, it was hypothesised that this group would score significantly lower on sensation seeking than the adventure tourism group. This is because it has been noted that individuals who are high on sensation seeking tend to underestimate risk (Rossi & Cereatti, 1993). Rock climbers can not really afford to do this if they are to succeed at an elite level. Furthermore, high risk athletes have control over their own safety, and therefore need to be adept at estimating the risk involved in their sport.

### **1.9 Chapter Summary.**

Research investigating the motivations for high risk sport has established that a desire to sensation seek, and a need to achieve, are two important factors underlying the decision to participate in such risky pastimes. However, while adventure tourism is a strong industry in New Zealand, little research has been conducted into what motivates people to partake in this risky group of activities. The research that is available suggests that sensation seeking and social desirability may be important. While high risk sport and adventure tourism activities have similarities, it can not be assumed that the motivation for participation will be the same for both behaviours. Hence, the present study aimed to compare the sensation-seeking, achievement and social desirability needs of high risk sport athletes and adventure tourism participants.

## **CHAPTER TWO**

### **METHOD**

The following chapter contains a description of the methods and procedures employed in this study. There is a description of the study sample and of the questionnaire used in the study. The data collection procedure is detailed and the techniques used for data analysis are discussed.

#### **2.1 Subjects**

Ninety subjects took part in this study, 52 of whom were males and 38 were females. The participants were aged from 17 to 57 years, with a mean age of 24.8 years. The first group represented bungy jumpers, and the criteria for inclusion in this group was that the individual must have bungy jumped at least once; that they must be currently attending the University of Canterbury; and that they must not be actively and regularly involved in rock climbing, mountaineering, extreme skiing (as defined by skiing outside the boundary of the ski field, and attempting jumps and runs whereby if you fall, you die), aerobatic piloting a small plane, hang gliding, or any other sport which may be considered high risk. Of the thirty subjects in the bungy jumping group, 18 were male and 12 were female, and the range in age was from 18 to 54 years with a mean age of 25.5 years.

The second study group consisted of thirty individuals who were actively involved in rock climbing, meaning that they climb once a month or more. All

the rock climbing subjects also attended Canterbury University, and had not participated in any of the top five adventure tourism activities outlined by the Queenstown Information Office which include bungy jumping, jet-boating, white-water rafting, paraponting, and being a passenger in an aerobatic plane. The rock climbers ranged in age from 18 to 57 years, with a mean age of 22.97, and the gender ratio was 21 males to 9 females.

The final thirty individuals involved in this study were the control subjects. These subjects were not actively involved in any high risk sport, and had not participated in the top five adventure tourism activities. Of the Canterbury University students in this group, 13 were male and 17 were female. The control participants ranged in age from 17 to 55 years, with a mean age of 25.97 years.

## **2.2 Questionnaire**

The questionnaire used in this study comprised four sections:

- i) Background Information (see appendix A)
- ii) Zuckerman's Sensation Seeking Scale (see appendix B)
- iii) Nygard and Gjesme Achievement Motives Scale (see appendix C)
- iv) Marlowe-Crowne Social Desirability Scale (see appendix D)

The background information section was designed by the researcher to obtain selected demographic and personal information from the participants. It included questions regarding gender, age, nationality, ethnicity, marital status, religious preference, and birth position. This section of the questionnaire also included questions requiring the respondents to rate selected factors on a four point

Likert scale in relation to how important each reason was in contributing to their decision to rock climb or bungee jump. In this Likert scale, 1 = did not contribute at all, and 4 = contributed greatly. The reasons included getting a thrill, telling friends, enjoying the environment, challenging oneself, overcoming a fear, and learning a new skill. Control subjects were given a different set of factors to rate which related to why they had not participated in adventure tourism activities or high risk sport. Such reasons included having no desire to participate, being too frightened, having had no opportunity, and financial concerns. All the study groups were also asked if any other reasons for participation or non-participation were important for them. The final question in the background information section asked the rock climbers and the bungee jumpers if their decision to participate was impulsive. A summary of the demographic information gathered from this section is presented in Table 1.

Zuckerman's Sensation Seeking Scale Form Five (SSS-V) is a forced-choice, self-report instrument which was selected for use in this study because it has good reliability and validity, and because it is the scale most often used in sensation-seeking research. Completion of this scale results in a total score out of 40, and four subscale scores out of 10 (Zuckerman, 1994). The Achievement Motive Scale devised by Nygard and Gjesme is also a self-report instrument in which the respondents are required to indicate how they feel about fifteen different achievement orientated statements on a four point Likert scale where 1 = is not true of me at all, and 4 = is very true of me. Completion of this scale results in a score out of 60 indicating the participants' need to achieve. This instrument was employed in this study because it is the most

recent and valid scale which measures this motive (Man, Nygard & Gjesme, 1994). Finally, the Marlowe-Crowne Social Desirability Scale (M-CSD) is another self-report instrument in which the respondent must decide whether 33 statements are true or false as they pertain to them personally. This measure was selected because it has shown good reliability and validity over the years, and because it is the most common tool used in literature relevant to the social-desirability motive (Hoyenga & Hoyenga, 1984).

**Table 1. Demographic Information**

		BUNGY	ROCK CLIMB	CONTROLS	TOTAL
AGE	mean	25.5	23.0	26.0	24.8
	high	54	57	55	57
	low	18	18	17	17
SEX	% male	60	70	43	58
	% female	40	30	57	42
NATION	% New Zealand	100	97	97	98
	% French	0	3	0	1
	% German	0	0	3	1
RACE	% European	100	100	100	100
MARITAL	% single	77	93	87	86
	% married	10	3	3	6
	% de facto	13	3	7	8
	% divorced	0	0	3	1
RELIGION	% athiest	40	50	33	41
	% catholic	13	13	7	11
	% anglican	37	13	33	28
	% agnostic	7	13	13	11
	% other	3	10	13	9
BIRTH	% 1st born	20	27	50	32
	% 2nd born	53	53	7	38
	% 3rd or later born	20	13	33	22
	% only child	7	7	10	8

### **2.3 Procedure**

To recruit subjects for participation in this study, posters were put up on the various noticeboards around the Canterbury University campus. The poster briefly explained the purpose of the study and the need for volunteers, and asked individuals who were interested to contact the researcher by phone. The poster is presented in Appendix E. Participation was purely voluntary and confidential, and subjects were not offered a reward for their efforts. Each potential subject who expressed interest was asked questions verbally to ascertain which group they could be assigned to, and whether they fitted the criteria of that group. If the individual was suitable for one of the three groups, the researcher met with them at a time and place of their choosing to fill out the questionnaire which contained information about the project (see appendix F), and a consent form which was signed by the subject (see appendix G). In order to ensure that the questionnaires were correctly completed, the researcher remained with each subject while they answered the questions, and checked that every question had a response before finishing the meeting. The completed questionnaires were then coded according to category, and filed separately from the consent form to assure confidentiality.

In addition, the researcher attended a University of Canterbury rock climbing club meeting and a mountaineering club meeting to recruit subjects for the rock climbing category. The purpose of the study and the criteria of the group were explained during the meeting, and interested individuals asked to remain behind after the meeting to complete the questionnaire.

The final recruiting procedure involved sending an e-mail to all the psychology graduate students explaining the purpose of the study and the criteria of each group, and seeking their participation.

## **2.4 Data Analysis**

Data was analysed using the Statistica for windows statistical analysis package.

Specific data analysis used in this study are as follows:

**I. Descriptive Statistics.** Appropriate descriptive statistics, including frequencies, means, standard deviations, variances, and ranges were used to describe subject characteristics and demographic information. Descriptive statistics were also used to evaluate the responses to the question asking participants if their decision to partake in bungee jumping or rock climbing was impulsive.

**II. T-Tests For Independent Samples.** In order to analyse and compare the subjects' responses to the Likert Scale on the Background Information section of the questionnaire, t-tests were performed to establish whether there was a significant difference between the bungee jumpers and the rock climbers with regards to reasons for participation.

**III. Analysis Of Variance.** To test the statistical significance of the effect of each group in relation to their scores on the three psychometric tests, within-subject, one-way ANOVAs were carried out on the data.

**IV. Post-Hoc Tests.** To analyse the significance found in the ANOVA tests, Tukey Honest Significant Difference Tests were performed.

**V. Observed Versus Expected Chi-Square Tests.** These tests were used to analyse the effect of the dependent variables which did not show homogeneity of variance.

## **2.5 Chapter Summary**

The participants in this study were male and female bungy jumpers, rock climbers, and individuals who had not participated in an adventure tourism activity, and were not involved in a high risk sport. Subjects were recruited by voluntarily responding to posters, e-mail, and verbal requests for participation, and completed the Background Information questionnaire, the Sensation Seeking Scale, the Achievement Motives Scale, and the Marlowe-Crowne Social Desirability Scale. Descriptive statistics were calculated to establish demographic data and t-tests were performed to establish whether bungy jumpers and rock climbers indicated different reasons for participation in their activity. To establish whether there was a difference in sensation seeking, achievement and social desirability motive strength within the three subject groups, ANOVA tests were performed, followed by Post Hoc tests to identify where the significant effect was occurring. Chapter three presents the results of the data analysis.

## **CHAPTER THREE**

### **RESULTS**

This chapter presents the results of the analyses of participant responses to the Likert Scale questions regarding reasons for activity participation and non-participation, and to the question about impulsiveness. It also contains results of the analyses of scores from the Sensation Seeking Scale Form V (SSS-V), the Achievement Motives Scale (AMS) and the Social Desirability Scale (M-CSD).

#### **3.1 Comparison Between Participation Reasons For Bungy Jumpers and Rock Climbers.**

A summary of the results from the descriptive statistic analyses for the participation reasons rated by the bungy jumpers (BJ) and the rock climbers (RC) (where 1 = did not contribute at all to my decision to participate and 4 = contributed greatly in my decision to participate) is presented in Table 2.

Differences between the two groups were assessed by t-tests performed on each of the six reasons. All differences except one (“to overcome a fear”) were significant i.e., “to get a thrill” ( $t[58] = 2.07, p < 0.05$ ); “to be able to tell my friends I did it” ( $t[58] = 3.89, p < 0.001$ ); “to enjoy the environment” ( $t[58] = -7.04, p < 0.0001$ ); “to challenge myself” ( $t[58] = -3.43, p < 0.01$ ); “to learn a new skill” ( $t[58] = -7.4, p < 0.0001$ ). Only one participation reason exhibited a significant sex difference for BJ (“to challenge myself,”  $t[28] = -2.8, p < 0.01$ ), and none of the reasons differed between male and female rock climbers.

**Table 2. Means And Standard Deviations For Responses To The Participation Reasons As Rated On A Likert Scale**

	<b>BUNGY JUMPERS</b>		<b>ROCK CLIMBERS</b>	
	<b>Mean</b>	<b>Standard Deviation</b>	<b>Mean</b>	<b>Standard Deviation</b>
<b>To get a thrill</b>	3.6	0.7	3.1	1.0
<b>To tell friends</b>	2.6	1.0	1.7	1.0
<b>To enjoy the environment</b>	1.7	0.9	3.2	0.7
<b>To challenge myself</b>	2.7	1.1	3.6	0.7
<b>To learn a new skill</b>	1.4	0.8	2.3	1.0
<b>To overcome a fear</b>	2.2	1.0	2.3	1.1

### **3.2 Analyses Of Likert Scale Responses Made By Controls**

The descriptive statistics from the Likert Scale presented to the control subjects regarding reasons for non-participation in either an adventure tourism activity or a high risk sport are presented in Table 3. These results indicate that there was little difference between the importance of the reasons for non-

participation, with all four given reasons recording similar means and standard deviations. However, two of the reasons showed significant sex differences when t-tested for independent means. The reason “am too frightened” was rated as more important by females ( $t[28] = -4.8, p < 0.01$ ), and “financial reasons” was rated as more important by males ( $t[28] = 2.55, p < 0.05$ ).

**Table 3. Descriptive Statistics For Control Responses To Likert Scale.**

	Males		Females		Total	
	M	SD	M	SD	M	SD
<b>No Desire</b>	2.1	1.1	2.0	0.9	2.0	1.0
<b>Too Frightened</b>	1.5**	0.7	3.0**	0.9	2.4	1.1
<b>No Opportunity</b>	2.6	1.0	2.5	1.3	2.5	1.1
<b>Financial Reasons</b>	3.2*	0.8	2.3*	1.1	2.6	1.1

\* $p < 0.05$  \*\* $p < 0.01$

### 3.3 Impulsiveness Analysis

In response to the question “was your decision to go rock climbing / bungy jumping impulsive?” 73% ( $n = 22$ ) of the BJ subjects answered ‘yes’ compared with 40% ( $n = 12$ ) of the RC subjects (see Table 4). A chi-square test revealed that these frequencies significantly differed between the two groups [ $X^2(1) = 5.50, p < 0.02$ ]. This suggests that the motives involved in adventure tourism participation may be affected by impulsiveness, whereas high risk sport

participation does not seem to be affected by this trait to such a marked degree.

**Table 4. Responses To Impulsive Question**

	BJ		RC	
	%	n	%	n
<b>Yes</b>	73	22	40	12
<b>No</b>	27	8	60	18

### 3.4 Analyses Of Variance

Before the ANOVAs were carried out, the dependent variables (total SSS-V, TAS, ES, DIS, BS, AMS, and M-SCD scores) were checked for homogeneity of variance using the Levene's Test. These tests indicated homogeneity for the SSS-V, AMS and M-SCD scores but not for any of the SSS-V subscales so square root transformations of these values were used for analyses. Each ANOVA was a  $2 \times 1$  between-groups design, with gender and group as the independent variables. Table 5 presents the untransformed measures of central tendency, the results of the ANOVAs, and the results from the Tukey Honest Significant Difference post-hoc test for the two experimental groups and the control groups. Table 6 presents the measures of central tendency, ANOVA results and post-hoc test results for gender.

**Table 5. Measures Of Central Tendency And ANOVA Results For Bungy Jumpers, Rock Climbers, And Control Group**

	BJ		RC		CG		F(2,84)
	M	SD	M	SD	M	SD	
SSS-V	28.5 <sup>a</sup>	4.5	26.3 <sup>a</sup>	5.8	21.4	6.5	11.9**
TAS	8.5 <sup>a</sup>	1.4	8.1 <sup>a</sup>	1.5	5.7	2.4	16.6**
ES	7.3 <sup>a</sup>	1.8	7.4 <sup>a</sup>	1.4	6.3	2.9	5.0**
DIS	7.9 <sup>a</sup>	1.4	6.4	2.3	5.6	2.3	7.5**
BS	4.8	2.4	4.4	2.8	3.9	2.5	1.1
AMS	37.7	7.9	45 <sup>ab</sup>	7.1	36.3	5.7	15.4**
M-SCD	12.6	5.3	13.7	4.0	12.4	5.4	<1

**Table 6. Measures Of Central Tendency And ANOVA Results For Males And Females**

	Males		Females		F(2,84)
	M	SD	M	SD	
SSS-V	25.9	5.9	24.8	6.9	<1
TAS	8.1 <sup>c</sup>	1.6	6.6 <sup>c</sup>	2.6	6.49*
ES	6.6 <sup>c</sup>	2.2	7.5 <sup>c</sup>	1.9	6.84*
DIS	6.8	2.3	6.5	2.2	<1
BS	4.6	2.6	4.2	2.5	1.35
AMS	40.4	6.9	38.6	9.1	<1
M-SCD	12.9	4.9	12.8	5.0	<1

\* p<0.05, \*\* p<0.01      <sup>a</sup> signif diff from control group  
<sup>b</sup> signif diff from experimental group    <sup>c</sup> signif gender difference

The interaction between gender and group was only significant for TAS ( $F[2, 84] = 4.0, p = 0.02$ ), with all the other dependent variables recording a p-value of greater than 0.05. A subsequent planned comparison indicated that this was because the TAS mean for females in CG ( $M = 4.7, SD = 1.5$ ) was significantly lower than the TAS mean for females in both of the experimental groups (BJ:  $M = 8.2, SD = 1.6$ ; RC:  $M = 8.1, SD = 1.5$ ), and than the men in all three groups (BJ:  $M = 8.8, SD = 1.3$ ; RC:  $M = 8.1, SD = 1.5$ ; CG:  $M = 7.0, SD = 1.8$ ).

### **3.5 Chapter Summary**

This chapter presented the results obtained from the study. First, the bungy jumpers reasons for participation were compared with the rock climbers participation reasons, and the control groups reasons for not participating in a high risk sport or an adventure tourism activity were examined. Next, the results regarding the role of impulsiveness in the decision to participate in bungy jumping and rock climbing were reported. Finally, analyses of the variance between the gender and group scores on the three psychometric tests were reported.

## **CHAPTER FOUR**

### **DISCUSSION**

Chapter four presents a summary of the research conducted for this study. The results are discussed in relation to previous related literature, and to the study hypotheses. Next, the limitations of the study are reviewed and suggestions are made for future research in the area. Finally, conclusions are drawn regarding the present study.

#### **4.1 Summary Of The Research**

The purpose of the present study was to establish whether the motives of sensation seeking, achievement, and social desirability play a significant part in the decision to engage in the high risk sport, rock climbing, and the adventure tourism activity, bungee jumping. In addition, the study aimed to establish whether any other motives were important for participation in these activities. Finally, the study aimed to discover whether the decision to participate in bungee jumping or rock climbing was made on impulse or after careful consideration.

The study sample consisted of thirty individuals who had bungee jumped, thirty rock climbers, and thirty individuals who had never participated in an adventure tourism activity or a high risk sport. All the subjects received and completed a Background Information questionnaire, Zuckerman's Sensation Seeking Scale Form V (SSS-V), the Nygard and Gjesme Achievement Motives

Scale (AMS), and the Marlowe-Crowne Social Desirability Scale (M-CSD).

Descriptive statistics were calculated for all of the data, and t-tests, chi-square tests and analyses of variance were used where appropriate.

The results of the study will now be discussed in light of previous research, and in relation to the study hypotheses.

#### **4.2 The Sensation-Seeking Motive**

The statistical analysis carried out on the total sensation-seeking scores provided partial support for the prediction that both the bungy jumping group and the rock climbing group would be significantly higher than the control subjects in sensation seeking. This finding is in keeping with the majority of the literature concerning sensation seeking and high risk sport (eg: Hymbaugh & Garrett, 1974; Straub, 1982; Robinson, 1985; Bouter, Knipschild, Feij, & Volovics, 1988; Cronin, 1991; Freixanet, 1991; Rossi & Cereatti, 1993; and Schroth, 1995), and sensation seeking and bungy jumping (Michel, Carton & Jouvent, 1997).

However, the prediction that bungy jumpers would be significantly higher than the rock climbers in sensation seeking was not supported. This hypothesis was based on the findings of Rossi and Cereatti (1993) which suggested that high sensation seekers tend to underestimate risk. As rock climbers need to be able to accurately estimate risk to ensure their own safety, it was assumed that individuals involved in this high risk sport would be less motivated by sensation seeking than the individuals who chose to bungy jump. The present

results did not support this assumption, and one possible explanation for this may have been the differing levels of ability among the rock climbing subjects. It is possible that novice rock climbers, who only climb the easiest faces or a controlled climbing wall, do not need to accurately estimate risk, (or have yet to learn to do so). This would not be the case for advanced climbers, who climb mountains and sheer faces, and who need to be proficient at risk assessment to ensure their safety. Unfortunately, the study did not determine the climbing ability of subjects, and as such, it is impossible to determine if climbing ability had an impact on the sensation-seeking scores.

Age may also have had an effect on the sensation seeking scores of the bungee jumpers and the rock climbers. Even though the range in ages of subjects was quite wide, most of the subjects in all three groups were between seventeen and twenty-five years old (79%). As sensation seeking generally decreases with age (Zuckerman, 1994), it is possible that the high percentage of young subjects may have contributed to high sensation seeking scores. A sample with a more even age distribution may well find that adventure tourism participants display stronger sensation-seeking tendencies than do high risk sport athletes.

As expected, the bungee jumpers and the rock climbers scored significantly higher ( $p < 0.01$ ) than the controls on the subscales Thrill and Adventure Seeking (TAS) and Experience Seeking (ES). This finding replicates the majority of the research investigating sensation seeking and high risk sport which generally shows that high risk athletes are higher in TAS than control subjects (eg: Robinson, 1985; Bouter, Knipschild, Feij, & Volovics, 1988;

Cronin, 1991; Freixanet, 1991; Rossi & Cereatti, 1993; and Slanger & Rudestam, 1997), and higher in ES than controls (eg: Straub, 1982; Robinson, 1985; Cronin, 1991; Freixanet, 1991; and Rossi & Cereatti, 1993). These results are partially consistent with the results from the French study investigating the risk taking behaviours of bungy jumpers because Michel and colleagues (1997) also found TAS to be significantly higher in bungy jumpers than in controls. However in this French study, there was no difference in ES scores.

It is interesting to note that there was no significant difference between the bungy jumpers' TAS and ES scores, and the TAS and ES scores of the rock climbers. However the results from the responses to the Likert Scale, which required subjects to rate a number of reasons in terms of how important they were in deciding to participate in their particular activity, appear to contradict this finding. These results suggest that the individuals who had bungy jumped were motivated to participate by a greater need to "get a thrill" significantly more ( $p < 0.05$ ) than the rock climbers.

Another significant result from the analysis of the SSS-V scores was that the bungy jumping group was significantly higher ( $p < 0.01$ ) than both the rock climbing and the control groups on the disinhibition factor. This is consistent with most of the previous research involving high risk sports which suggests that there is no difference between control subjects and high risk athletes in disinhibition levels (eg: Straub, 1982; Robinson, 1985; Bouter, Knipschild, Feij, & Volovics, 1988; Cronin, 1991; and Freixanet, 1991). This result is best

explained by the fact that athletes of any kind tend to lead relatively conformist lifestyles in order to excel at their sport and remain physically fit, and thus tend not to indulge in disinhibiting practices such as drinking and partying (Straub, 1982). Adventure tourism activities however, do not require the discipline and skills of high risk sports, and can be enjoyed spontaneously. In this way, adventure tourism activities are similar to the disinhibition-related activities found in the SSS-V such as gambling, drinking, sexual activity and partying, and this may explain why the bungee jumpers had stronger disinhibition tendencies than all the other subjects. It should be noted that the only other study on record that investigated the motivational aspects of bungee jumping did not find a significant difference between control subjects and bungee jumpers on DIS, but that there was a difference between the two groups on BS (Michel, Carton, & Jouvent, 1997). Further research needs to be carried out in this area to more firmly establish whether boredom or disinhibition are indeed motivating factors in the decision to bungee jump.

The results from the study regarding sex differences in sensation seeking are somewhat different from previous research conducted in this area. The majority of international research has found that males are significantly higher than females in the total sensation-seeking score, TAS, DIS, and BS (eg: Ridgeway & Russell, 1980; Perez & Torrubia, 1986; Zuckerman, Kuhlman, Thornquist, & Kiers, 1991; Zuckerman, 1994; and Schroth, 1995). While the results from the present study indicate that males are significantly higher in TAS, no significant difference was found between males and females on the other three measures.

Another surprising finding regarding sex differences was that the females in this study scored significantly higher ( $p < 0.05$ ) than the males on ES. Previous studies have found, with very few exceptions, that there are no sex differences on ES (eg: Ball, Fernhill, & Wangeman, 1984; Perez & Torrubia, 1986; Bouter, Knipschild, Feij, & Volovics, 1988; Zuckerman, Kuhlman, Thornquist, & Kiers, 1991; Hughes, 1993; and Schroth, 1995) which suggests that while men tend to be higher on the more active forms of sensation seeking, women are just as open to novel experiences through the senses and life-style as men (Zuckerman, 1994). The present results suggest that the females in the study were more receptive to different experiences than the males, which may be indicative of the New Zealand culture. The 'Kiwi bloke phenomenon', whereby New Zealand males are socialised to enjoy outdoor pursuits such as rugby, fishing, farming and pig hunting, to be continuously suspicious of anything arty, and to be rugged and keep their emotions to themselves (Phillips, 1987; Keith, 1991) may explain why the male subjects in this study have not scored highly in ES. The experiences which measure ES in SSS-V include enjoying art, music, and a nonconformist lifestyle, and these activities are not generally seen to be particularly macho.

TAS was the only variable for which the interaction between gender and group membership was significant ( $p < 0.05$ ). Further analysis revealed that this was because the females in the control group were much lower on TAS than all the other males and females in the study. This suggests that females who are not actively involved in a high risk sport, and who have not chosen to engage in an adventure tourism activity, have very little motivation to actively seek

out adventure and thrills. One reason for this becomes evident in the analyses of the responses to the Likert Scale which revealed possible non-participation reasons. This showed that females are less likely than males ( $p < 0.01$ ) to participate in a high risk sport or an adventure tourism activity because they are too frightened to do so. Hence, a fear of risky physical activities may have contributed to particularly low TAS scores for women in the control group.

### **4.3 The Achievement Motive**

The results from the present study support the initial research hypothesis that rock climbers are motivated by a strong desire to achieve. The rock climbing subjects scored significantly higher ( $p < 0.01$ ) on the Achievement Motives Scale than both the bungee jumpers and the control group, and this result supports the previous finding that an important motivator for high risk sport is achievement (Halvari, 1997; Slinger & Rudestam, 1997). The results from the Likert scale also support this notion, with the rock climbing group judging the participation reasons “to challenge myself” and to “learn a new skill” to be more important ( $p < 0.01$ ) than the bungee jumpers. The rock climbers did not exhibit any gender differences in these reasons or in the AMS which implies that male and female rock climbers are similarly motivated by a need to achieve. Indeed, there were no significant gender differences for any of the groups on the AMS, and the interaction between gender and group membership was not significant for this motive which is in keeping with previous AMS research (Nygard & Gjesme, 1973). However, the females in the bungee jumping group rated the reason “to challenge myself” significantly higher ( $p < 0.01$ ) than the males which suggests that, for females, one important

motivation for bungee jumping may be to rise to a challenge. In this sense, females may feel that they are achieving a personal goal if they complete a bungee jump.

It is interesting to note that the bungee jumpers and the control subjects show similar levels of achievement motivation. It had been hesitantly predicted that the bungee jumping group would be moderately motivated by a desire to achieve, and this notion was supported by the results. This prediction was based on A. J. Hackett's comments which suggest that the main benefit of completing a jump is "a huge sense of achievement" even though the jumpers do not actually achieve a tangible skill. While the bungee jumpers' AMS scores were not significantly different from the control group, the means for both of these groups were considerably higher than the mid mark of the scale and higher than other available data using the AMS (eg: Martinsen, 1994; Depreeuw, Lens, & Van Horebeek, 1995), indicating that a need to achieve is still relatively important for both the bungee jumping group and the control group.

#### **4.4 The Social-Desirability Motive**

The results from the present study did not support the research hypothesis that bungee jumpers are motivated to participate in this adventure tourism activity in order to seek the approval of others. The results from the M-CSD indicated no significant difference between the groups on this measure, and all three group means were considerably lower than means for available normative data (Crowne & Marlowe, 1964). This may be a reflection of the changing values

of society, as research has shown that some social conventions, including examples represented on the M-SCD such as table manners and standard of dress, are not valued to the same extent now as they were in the past (e.g.: Shweder, Mahapatra, & Miller, 1987; Miller & Bersoff, 1988; and Wouters, 1998). Hence, perhaps some of the factors on the M-SCD are not true indicators of the social desirability motive for modern society, and have contributed to scores which may misrepresent the presence of the social desirability motive in the subjects. Results from the Likert scale certainly challenge the findings from the M-CSD as the participation reason “to tell friends I’ve done it” was rated significantly higher ( $p < 0.001$ ) by the bungee jumping group than the rock climbers, indicating that this reason was important in motivating the bungee jumpers to complete a jump. There were no gender differences found in relation to the social-desirability motive.

#### **4.5 Other Motivational Factors**

Slanger and Rudestam (1997) found that another unexpected motive for high risk sport was an aesthetical appreciation of the sport and the surroundings. Results from the present study concerning the participation reason “to enjoy the environment” support this finding. The rock climbers rated this reason as being considerably important, and scored significantly higher ( $p < 0.0001$ ) than the bungee jumpers. This suggests that an appreciation for the environment also motivates people to rock climb, but not to bungee jump even though this adventure tourism activity usually takes place in very beautiful parts of New Zealand.

Other motives for rock climbing were discovered when the subjects were asked directly if they could think of any reasons for participating other than the reasons already listed. Some reasons which arose include “to get fit,” “to have fun,” “fascinated with the technology,” “to take part in an individual sport rather than the usual team sports at school,” “to help me in my teaching career,” “to pass an outdoor pursuits course,” and “to help with the related disciplines of skiing and mountaineering.” It is interesting, and in keeping with the results from the AMS, that most of these reasons are related in that they involve achieving a goal through participating in rock climbing.

When the bungee-jumping group were asked directly if they could think of any other reasons for jumping, the reason “to have fun” was encountered most frequently. Other reasons included “was on a skiing holiday and the weather was bad so did this instead,” “got caught up in the holiday mood,” and “wondered what it would feel like.”

#### **4.6 Reasons For Non-Participation**

While there was little difference between the reasons for choosing not to participate in either a high risk sport or an adventure tourism activity, (with the mean rating of all four activities indicating that they were all “partly important”), sex differences existed amongst the control subjects. While the reason “am too frightened” was an important factor in preventing females from participating, the males seemed more concerned with the financial aspects of such activities.

#### **4.7 The Role Of Impulsiveness**

The hypothesis that the decision to go bungee jumping would be made impulsively, and that the decision to begin rock climbing would be made after careful consideration, was strongly supported by the results. The vast majority of the adventure tourism group clearly decided to bungee jump on impulse, and the other participation reasons given by this group also indicate that the decision to participate was made on the spur of the moment. For example, reasons such as “getting caught in the holiday mood,” and deciding to jump because of an inability to go skiing suggest that the decision was largely spontaneous. This is in vast contrast to the rock climbing group, who gave participation reasons which indicated that the decision to learn rock climbing was very much premeditated. For example, reasons such as helping with other mountain-related disciplines, passing courses, and getting fit clearly showed that the subjects had started rock climbing for quite specific reasons.

#### **4.8 Limitations Of The Study**

The first and most obvious limitation of the present study is that it is reliant on self-report data. As such, the subjects’ responses regarding participation and non-participation reasons were limited to those presented on the questionnaire, and those items may not have been an accurate representation of all the possible motives for high risk sport or adventure tourism participation, or reasons for non-participation. While all the subjects’ were asked if there were any other reasons they could think of for participating or non-participating, the response rate to this section of the questionnaire was poor (32%) and hence may not have been successful in identifying other possible factors.

A further limitation of the study is that it relied on volunteers to act as subjects, and was therefore not a true random sample. By recruiting subjects in this manner, it is possible that the study may be susceptible to volunteering bias, whereby individuals who respond to pleas for volunteers may be fundamentally different from individuals who do not. The study sample was also limited to University Of Canterbury students, all of whom were European and most of whom were young. Therefore any conclusions drawn from the study can only be generalised to other populations with caution.

#### **4.9 Considerations For Future Research**

The results from this study suggest that rock climbers and individuals who have bungy jumped have equally high sensation seeking motives even though the bungy jumping group indicated that “to get a thrill” was very important when deciding to participate, while the rock climbers rated it as only partly important. Any future research in this area should attempt to resolve this indiscrepancy by controlling for sporting ability and age. It might also be interesting to compare the sensation seeking needs of individuals in relation to how often they have bungy jumped..

Further research should also investigate the indiscrepancy between the results from the study by Michel and colleagues (1997) and the results from the present study regarding susceptibility to boredom, and disinhibition levels in bungy jumping motivation. In order to determine if the results from this study can be generalised to other adventure tourism activities, it would also be of

interest to investigate the motives for activities such as white water rafting, jet-boat riding, paraponting, and acrobatic plane riding.

Due to the unusual findings regarding sex differences in sensation seeking, future research should attempt to establish whether the general lack of gender differences found in the sensation-seeking levels of the bungy jumpers and the rock climbers in this study really are related to the New Zealand culture. A study investigating the gender differences in adventure tourism motivation would be useful, especially in the light of the results from the Likert scale which suggest that one reason why females choose not to take part in risky activities is because they are too frightened, and that the females who do try bungy jumping often do so to challenge themselves.

Another avenue for possible future research is the investigation of whether adventure tourism motivation is affected by peer approval. While the M-SCD did not indicate that the social desirability motive was particularly prevalent in the bungy jumping group, the results from the Likert scale, and the individual comments on participation do suggest that the opinions of peers play an important part in motivating people to bungy jump, so this idea should be explored further.

Finally, a number of other possible motives for both high risk sports and adventure tourism activities were encountered in this study which should be further investigated. Possibilities include motives to get fit, to help with related

disciplines, to learn about technology, to enjoy the environment, general curiosity, and to improve holiday quality.

#### **4.10 Conclusion**

This study supports the notion that sensation seeking is an important motivating factor for the adventure tourism activity, bungee jumping, and lends further support to the findings of previous researchers that high risk sport is largely motivated by sensation seeking (e.g.: Hymnbaugh & Garrett, 1974; Straub, 1982; Robinson, 1985; Bouter, Knipschild, Feij, & Volovics, 1988; Cronin, 1991; Freixanet, 1991; Rossi & Cereatti, 1993; Slanger & Rudestam, 1997). However, this study did not find any difference between the sensation-seeking needs of high risk sport athletes and adventure tourism participants, even though the bungee jumpers were more concerned with “getting a thrill” through their activity than were the rock climbers. This study also lends support to the previous finding that the need for achievement is highly significant for involvement in high risk sports (e.g.: Halvari, 1997; Slanger & Rudestam, 1997), and suggests that this motive is only moderately important for bungee jumpers. With regards to social desirability, this study found that the need for social approval was not a significant motive for either high risk sport or adventure tourism participation, even though the bungee jumping subjects indicated that telling their friends they had jumped was an important factor when deciding to participate. Finally, the study determined that bungee jumping participation is usually carried out on impulse, and that rock climbing is not. Future research needs to investigate the motivation of other adventure tourism

activities in relation to gender, age, and cultural differences, as well as other possible motives for high risk sport and adventure tourism participation.

## REFERENCES.

- Adler, A. (1930). *Problems of neurosis*. New York: Cosmopolitan Book Corp.
- Ball, I. L., Farnill, D., & Wangeman, J. F. (1984). Sex and age differences in sensation seeking: Some national comparisons. *British Journal of Psychology*, 75, 257-265.
- Bouter, L. M., Knipschild, P.G., Feij, J. A., & Volovics, A. (1988). Sensation seeking and injury risk in downhill skiing. *Personality and Individual Differences*, 9, 667-673.
- Cronin, C. (1991). Sensation seeking among mountain climbers. *Personality and Individual Differences*, 12, 653-654.
- Crowne, D. P., Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349-354.
- Crowne, D. P., Marlowe, D. (1964). *The approval motive: Studies in evaluative dependence*. New York: John Wiley and Sons Inc.
- Depreeuw, E., Lens, W., Van Horebeek, W. (1995). A dutch adaptation of the child-rearing styles inventory and a validation of Krohne's two-process model. *Anxiety, Stress, and Coping*, 8, 61-72.
- Deutsch, H. A. (1926). A contribution to the psychology of sport. *International Journal of Psychoanalysis*, 7, 223-227.
- Farley, F. (1985). Psychobiology and cognition: An individual-differences model. In J. Strealau, F. H. Farley, & A. Gale (Eds.). *The biological bases of personality and behaviour: Theories, measurement techniques, and development*. Washington: Hemisphere Publishing.
- Feij, J. A., Orlebecke, J. F., Gazendam, A., & Van Zuilen, R. W. (1985). Sensation seeking: Measurement and psychophysiological correlates. In J. Strealau, F. H. Farley, & A. Gale (Eds.). *The biological bases of personality and behaviour: Theories, measurement techniques, and development*. Washington: Hemisphere Publishing.
- Fenichel, O. (1945). *The psychoanalytic theory of neurosis*. New York: W. W. Norton.
- Franken, R. E. (1988). *Human motivation*. California: Brooks/Cole Publishing.
- Freixanet, M. G. (1991). Personality profile of subjects engaged in high physical risk sports. *Personality and Individual Differences*, 12, 1087-1093.

- Gooden, W. E., Struble, K. D. (1990). Perceived parental behaviour and the social desirability response set. *Journal of Youth and Adolescence*, 19, 605-613.
- Halvari, H. (1990). Effects of achievement motives and sex on wrestling ability and motor performance. *International Journal of Psychology*, 25, 529-543.
- Halvari, H. (1997). Moderator effects of age on the relation between achievement motives and performance. *Journal of Research in Personality*, 31, 303-318.
- Hoyenga, K. B., Hoyenga, K. T. (1984). *Motivational explanations of behaviour: Evolutionary, physiological and cognitive ideas*. California: Brooks/Cole Publishing Company.
- Hughes, R. N. (1993). Relationships between sensation seeking and use of caffeine, alcohol, and cigarettes by New Zealand university students. *Drug and Alcohol Review*, 12, 169-173.
- Hymbaugh, K., Garrett, J. (1974). Sensation seeking among skydivers. *Perceptual and Motor Skills*, 38, 118.
- Joubert, C. E. (1991). Relationship of liking one's given names to self esteem and social desirability. *Psychological Reports*, 68, 821-822.
- Keith, S. (1991). Blokes. *The Listener*, 131, 95.
- Man, F., Nygard, R., & Gjesme, T. (1994). The achievement motives scale: theoretical basis and results from a first try-out of a czech form. *Scandinavian Journal of Educational Research*, 38, 209-217.
- Martinsen, O. (1994). The effect of individual differences in cognitive style and motives in solving insight problems. *Scandinavian Journal of Educational Research*, 38, 83-96.
- Michel, G., Carton, S., & Jouvent, R. (1997). Sensation seeking and anhedonia in risk taking behaviours: Study in bungee jumpers. *Encephale*, 23, 403-411.
- Middleton, W., Harris, P., & Surman, M. (1996). Give 'em enough rope: Perception of health and safety risks in bungee jumpers. *Journal of Social and Clinical Psychology*, 15, 68-79.
- Miller, J. G., & Bersoff, D. M. (1988). When do American children and adults reason in social conventional terms. *Developmental Psychology*, 24, 366-375.
- Millham, J., & Jacobson, L. I. (1978). The need for approval. In H. London & J. E. Exner (Eds.), *Dimensions of personality*. New York: John Wiley and Sons.
- Nygard, R., & Gjesme, T. (1973). Assessment of achievement motives: Comments and suggestions. *Scandinavian Journal of Educational Research*, 17, 39-46.

- Pedersen, D. M. (1997). Perceptions of high risk sports. *Perceptual and Motor Skills, 85*, 756-758.
- Perez, J., & Torrubia, R. (1986). Reliability and validity of the Spanish version of the Sensation Seeking Scale (form V). *Revista Latinoamericana de Psicología, 18*, 7-22.
- Phillips, J. (1987). *A man's country: The image of a pakeha male*. Auckland: Penguin Books.
- Rainey, D. W., Amunategui, F., Agocs, H., & Larick, J. (1992). Sensation seeking and competitive trait anxiety among college rodeo athletes. *Journal of Sport Behaviour, 15*, 307-317.
- Ridgeway, D., & Russell, J. A. (1980). Reliability and validity of the Sensation Seeking Scale: Psychometric problems in form V. *Journal of Consulting and Clinical Psychology, 48*, 662-664.
- Robinson, D. W. (1985). Stress seeking: Selected behavioural characteristics of elite rock climbers. *Journal of Sport Psychology, 7*, 400-404.
- Rossi, B., & Cereatti, L. (1993). The sensation seeking in mountain athletes as assessed by Zuckerman's Sensation Seeking Scale. *International Journal of Sport Psychology, 24*, 417-431.
- Rowland, G. L., Franken, R. E., & Harrison, K. (1986). Sensation seeking and participation in sporting activities. *Journal of Sport Psychology, 8*, 212-220.
- Schroth, M. L. (1995). A comparison of sensation seeking among different groups of athletes and nonathletes. *Personality and Individual Differences, 18*, 219-222.
- Shweder, R. A., Mahapatra, M., & Miller, J. (1987). Culture and development. In J. Kagan (Ed.), *The emergence of moral concepts in young children*. Chicago: University of Chicago Press.
- Slanger, E., & Rudestam, K. E. (1997). Motivation and disinhibition in high risk sports: Sensation seeking and self-efficacy. *Journal of Research in Personality, 31*, 355-374.
- Straub, W. F. (1982). Sensation seeking among high and low-risk male athletes. *Journal of Sport Psychology, 4*, 246-253.
- Weiner, B. (1978). Achievement strivings. In H. London & J. E. Exner (Eds.), *Dimensions of personality*. New York: John Wiley and Sons, Inc.
- Wouters, C. (1998). Etiquette books and emotion management in the twentieth Century: American habitus in international comparison. In P. Stearns & J. Lewis (Eds.), *An emotional history of the United States: The history of Emotion series*. New York: New York University Press.

- Zuckerman, M. (1974). The sensation seeking motive. In B. A. Mahler (Ed.). *Progress in Experimental Research, Vol 7*. New York: Academic Press.
- Zuckerman, M. (1985). Biological foundations of the sensation seeking temperament. In J. Strelau, F. H. Farley, & A. Gale (Eds.). *The biological bases of personality and behaviour*. Washington: Hemisphere Publishing.
- Zuckerman, M. (1994). *Behavioural expressions and biosocial bases of sensation seeking*. Cambridge: Cambridge University Press.
- Zuckerman, M., Bone, R. N., Neary, R., Mangelsdorff, D., & Brustman, B. (1972). What is the sensation seeker? Personality trait and experience correlates of the sensation-seeking scales. *Journal of Consulting and Clinical Psychology, 39*, 308-321.
- Zuckerman, M., Eysenck, S. B. G., & Eysenck, H. J. (1978). Sensation seeking in England and America: Cross-cultural, age, and sex comparisons. *Journal of Consulting and Clinical Psychology, 46*, 139-149.
- Zuckerman, M., Kuhlman, D. M., Thornquist, M., & Kiers, H. (1991). Five robust questionnaire scale factors of personality without culture. *Personality and Individual Differences, 12*, 929-941.

APPENDIX A

**QUESTIONNAIRE**

**Human Motivation for Adventure Tourism Participation**

- Question 1.** What is your gender?                      *male*              *female*
- Question 2.** What is your current age?                      .....years
- Question 3.** What is your nationality?              *NZ Australian Chinese Indian*  
*Tongan Samoan Other.....*
- Question 4.** Which ethnic group do you identify with most strongly?  
*European Maori Chinese Indian*  
*Tongan Samoan Other.....*
- Question 5.** What is your marital status?   *married single divorced widow*  
*de facto relationship*
- Question 6.** What is your religious preference? *Athiest Presbyterian Catholic*  
*Anglican Jewish Hindu Other.....*
- Question 7.** What is your birth position?   *only child first born second born*  
*third or later born*
- Question 8.** Which of the following factors do you feel contributed to your decision to go rock climbing / bungy jumping? (1=not at all 4=contributed greatly)

<b>To get a thrill</b>	1	2	3	4
<b>To be able to tell my friends I did it</b>	1	2	3	4
<b>To enjoy the environment</b>	1	2	3	4
<b>To challenge myself</b>	1	2	3	4
<b>To overcome a fear</b>	1	2	3	4
<b>To learn a new skill</b>	1	2	3	4

**Question 9.** Were there any other reasons you can think of as to why you decided to go rock climbing / bungy jumping?

**Question 10.** Was your decision to go rock climbing / bungy jumping impulsive?                      *yes*              *no*

*The control subjects received the same questionnaire to question 7, and then this alternative question 8.*

**Question 8.** Please rank the following reasons on a scale of 1-4 as to why you have not participated in an adventure tourism activity or a high risk sport. (1= was not a reason for me; 2= was partly a reason for me; 3= was a strong reason; 4= was the main reason.)

<b>Have no desire</b>	1	2	3	4
<b>Am too frightened</b>	1	2	3	4
<b>Have not had the opportunity to do so</b>	1	2	3	4
<b>Financial reasons</b>	1	2	3	4
<b>Other.....</b>	1	2	3	4

## APPENDIX B

### ZUCKERMAN'S SENSATION SEEKING SCALE - FORM V

*Directions:* Each of the following items below contains two choices A and B. Please indicate which of the choices most describes your likes or the way you feel. In some cases you may find items in which both choices describe your likes or feelings. Please choose the one which better describes your likes or feelings. In some cases you may find items in which you do not like either choice. In these cases mark the choice you dislike least. Do not leave any items blank. It is important you respond to all items with only one choice, A or B. We are interested only in your likes or feelings, not in how others feel about these things or how one is supposed to feel. There are no right or wrong answers as in other kinds of tests. Be frank and give an honest appraisal of yourself.

- 1 **A.** I like "wild" uninhibited parties.  
**B.** I prefer quiet parties with good conversation.
- 2 **A.** There are some movies I enjoy seeing a second or even a third time.  
**B.** I can't stand watching a movie that I've seen before.
- 3 **A.** I often wish I could be a mountain climber.  
**B.** I can't understand people who risk their necks climbing mountains.
- 4 **A.** I dislike all body odours.  
**B.** I like some of the earthy body smells.
- 5 **A.** I get bored seeing the same old faces.  
**B.** I like the comfortable familiarity of everyday friends.
- 6 **A.** I like to explore a strange city or section of town by myself, even if it means getting lost.  
**B.** I prefer a guide when I am in a place I don't know well.
- 7 **A.** I dislike people who do or say things just to shock or upset others.  
**B.** When you can predict almost everything a person will do and say he or she must be a bore.
- 8 **A.** I usually don't enjoy a movie or play where I can predict what will happen in advance.  
**B.** I don't mind watching a movie or play where I can predict what will happen in advance.
- 9 **A.** I have tried marijuana or would like to.  
**B.** I would never smoke marijuana.
- 10 **A.** I would not like to try any drug which might produce strange and dangerous effects on me.  
**B.** I would like to try some of the drugs that produce hallucinations.
- 11 **A.** A sensible person avoids activities that are dangerous.  
**B.** I sometimes like to do things that are a little frightening.
- 12 **A.** I dislike "swingers" (people who are uninhibited and free about sex).  
**B.** I enjoy the company of real "swingers."
- 13 **A.** I find that stimulants make me uncomfortable.  
**B.** I often like to get high (drinking liquor or smoking marijuana).

- 14 **A.** I like to try new foods that I have never tasted before.  
**B.** I order the dishes I am familiar with so as to avoid disappointment and unpleasantness.
- 15 **A.** I enjoy looking at home movies, videos, or travel slides.  
**B.** Looking at someone's home movies, videos, or travel slides bores me tremendously.
- 16 **A.** I would like to take up the sport of water skiing.  
**B.** I would not like to take up water skiing.
- 17 **A.** I would like to try surfboard riding.  
**B.** I would not like to try surfboard riding.
- 18 **A.** I would like to take off on a trip with no preplanned or definite routes, or timetable.  
**B.** When I go on a trip I like to plan my route and timetable fairly carefully.
- 19 **A.** I prefer the "down to earth" kinds of people as friends.  
**B.** I would like to make friends in some of the "far-out" groups like artists or punks.
- 20 **A.** I would not like to learn to fly an aeroplane.  
**B.** I would like to learn to fly an aeroplane.
- 21 **A.** I prefer the surface of the water to the depths.  
**B.** I would like to go scuba diving.
- 22 **A.** I would like to meet some persons who are homosexual (men or women).  
**B.** I stay away from any one I suspect of being "gay" or "lesbian."
- 23 **A.** I would like to try parachute jumping.  
**B.** I would never want to try jumping out of a plane, with or without a parachute.
- 24 **A.** I prefer friends who are excitingly unpredictable.  
**B.** I prefer friends who are reliable and predictable.
- 25 **A.** I am not interested in experience for its own sake.  
**B.** I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional, or illegal.
- 26 **A.** The essence of good art is in its clarity, symmetry of form, and harmony of colours.  
**B.** I often find beauty in the "clashing" colours and irregular forms of modern paintings.
- 27 **A.** I enjoy spending time in the familiar surroundings of home.  
**B.** I get very restless if I have to stay around home for any length of time.
- 28 **A.** I like to dive off the high board.  
**B.** I don't like the feeling I get standing on the high board (or I don't go near it at all).
- 29 **A.** I like to date persons who are physically exciting.  
**B.** I like to date persons who share my values.
- 30 **A.** Heavy drinking usually ruins a party because some people get loud and boisterous.  
**B.** Keeping the drinks full is the key to a good party.

- 31 **A.** The worst social sin is to be rude.  
**B.** The worst social sin is to be a bore.
- 32 **A.** A person should have considerable sexual experience before marriage.  
**B.** It's better if two married persons begin their sexual experience with each other.
- 33 **A.** Even if I had the money, I would not care to associate with flighty rich persons in the "jet set."  
**B.** I could conceive of myself seeking pleasures around the world with the "jet set."
- 34 **A.** I like people who are sharp and witty even if they do sometimes insult others.  
**B.** I dislike people who have their fun at the expense of hurting the feelings of others.
- 35 **A.** There is altogether too much portrayal of sex in movies.  
**B.** I enjoy watching many of the "sexy" scenes in movies.
- 36 **A.** I feel best after taking a couple of drinks.  
**B.** Something is wrong with people who need liquor to feel good.
- 37 **A.** People should dress according to some standard of taste, neatness, and style.  
**B.** People should dress in individual ways even if the effects are sometimes strange.
- 38 **A.** Sailing long distances in small sailing crafts is foolhardy.  
**B.** I would like to sail a long distance in a small but seaworthy sailing craft.
- 39 **A.** I have no patience with dull or boring persons.  
**B.** I find something interesting in almost every person I talk to.
- 40 **A.** Skiing down a high mountain slope is a good way to end up on crutches.  
**B.** I think I would enjoy the sensations of skiing very fast down a high mountain slope.

## APPENDIX C

### GJESME AND NYGARD ACHIEVEMENT MOTIVES SCALE

*Directions:* The following test is comprised of fifteen statements. Please indicate how you feel about each and every statement by circling a number on the four-point scale. 1 = is not true of me at all; 2 = is partly true of me; 3 = is fairly true of me; 4 = is very true of me. Do not leave any items blank. It is important you respond to all items with only one choice. Be frank and give an honest appraisal of yourself.

1. I like to strive with problems that I am not sure I will be able to solve.  
**is not true of me 1 2 3 4 is very true of me**
2. I like to try my hand on new, somewhat difficult tasks even when there is a risk that I will not succeed.  
**is not true of me 1 2 3 4 is very true of me**
3. When I am given a task that I have a fair chance to solve, I like to start working on it immediately.  
**is not true of me 1 2 3 4 is very true of me**
4. I enjoy myself when I run into problems that are so difficult that I am not quite sure I will be able to solve them.  
**is not true of me 1 2 3 4 is very true of me**
5. I am attracted to situations that give me a fair opportunity to find out how clever or skilled I am.  
**is not true of me 1 2 3 4 is very true of me**
6. Tasks that are somewhat difficult to me, attract me.  
**is not true of me 1 2 3 4 is very true of me**
7. I feel challenge in situations that give me the opportunity to test my abilities.  
**is not true of me 1 2 3 4 is very true of me**
8. I feel pleasure at working on tasks that are somewhat difficult for me.  
**is not true of me 1 2 3 4 is very true of me**
9. I get easily involved when I am confronted with somewhat difficult things, even when they are not exactly useful.  
**is not true of me 1 2 3 4 is very true of me**
10. I feel enjoyment in situations which give me the opportunity to test my abilities.  
**is not true of me 1 2 3 4 is very true of me**

11. When a somewhat difficult job has to be done, I hope to be asked to do it.  
**is not true of me 1 2 3 4 is very true of me**

12. I like to be confronted with tasks that I have a chance to solve if I do my very best.  
**is not true of me 1 2 3 4 is very true of me**

13. When I am faced with something that I don't immediately understand or can't immediately do, I easily take interest in it.  
**is not true of me 1 2 3 4 is very true of me**

14. I am attracted to work where I am uncertain whether I will succeed.  
**is not true of me 1 2 3 4 is very true of me**

15. It is important to me to succeed with tasks which I find somewhat difficult, even when no one else knows about it.  
**is not true of me 1 2 3 4 is very true of me**

## APPENDIX D

### THE MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

1. Before voting I thoroughly investigate the qualifications of all the candidates. *T F*
2. I never hesitate to go out of my way to help someone in trouble. *T F*
3. It is sometimes hard for me to go on with my work if I am not encouraged. *T F*
4. I have never intensely disliked anyone. *T F*
5. On occasion I have had doubts about my ability to succeed in life *T F*
6. I sometimes feel resentful when I don't get my own way. *T F*
7. I am always careful about my manner of dress. *T F*
8. My table manners at home are as good as when I eat out in a restaurant. *T F*
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it. *T F*
10. On a few occasions, I have given up doing something because I thought too little of my ability. *T F*
11. I like to gossip at times. *T F*
12. There have been times when I felt like rebelling against people in authority even though I knew they were right. *T F*
13. No matter who I am talking to, I am always a good listener. *T F*
14. I can remember "playing sick" to get out of something. *T F*
15. There have been occasions when I took advantage of someone. *T F*
16. I am always willing to admit it when I make a mistake. *T F*
17. I always try to practice what I preach. *T F*
18. I don't find it particularly difficult to get along with loud mouthed, obnoxious people. *T F*
19. I sometimes try to get even, rather than forgive and forget. *T F*
20. When I don't know something I don't at all mind admitting it. *T F*
21. I am always courteous, even to people who are disagreeable. *T F*
22. At times I have really insisted on having things my own way. *T F*
23. There have been occasions when I felt like smashing things. *T F*
24. I would never think of letting someone else be punished for my wrongdoings. *T F*
25. I never resent being asked to return a favour. *T F*
26. I have never been irked when people expressed ideas very different from my own. *T F*
27. I never make a long trip without checking the safety of my car. *T F*

28. There have been times when I was quite jealous of the good fortune of others. *T F*
29. I have almost never felt the urge to tell someone off. *T F*
30. I am sometimes irritated by people who ask favours of me. *T F*
31. I have never felt that I was punished without a cause. *T F*
32. I sometimes think that when people have a misfortune they only got what they deserved. *T F*
33. I have never deliberately said something that hurt someone's feelings. *T F*

APPENDIX E

POSTER

**Are you curious as to why people enjoy throwing themselves off bridges, hurtling down rapids or jumping out of planes?**

I am conducting a study investigating the motivational factors behind adventure tourism and high risk sports for my Msc thesis in psychology. In order to do this, I urgently need volunteers to answer some brief questionnaires. If you have bungy jumped or rock climbed and would like to help me out, call Libby on 3792028. Even if you haven't participated in these activities, please still call me as you may fit the control subject criteria.

**Don't delay, call today!**

## **APPENDIX F**

### **INFORMATION SHEET**

**University of Canterbury**

**Department of Psychology**

#### **INFORMATION**

You are invited to participate as a subject in the research project 'Human Motivation for Adventure Tourism Participation.'

The aim of this project is to establish whether individuals who choose to participate in adventure tourism activities are motivated by a need to sensation seek, a need to achieve, and/or a need to be socially desirable. The project will also compare the motives behind adventure tourism participation and involvement in high risk sport.

Your involvement in this project will involve signing a consent form, answering a 40 question forced choice test; a 33 question true or false test; a brief questionnaire; and ranking 15 statements on a four point scale. This should take approximately one hour, and there will be no follow up meeting times needed.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation as the identity of participants is not necessary for the project. To ensure anonymity and confidentiality, names and addresses of participants will not be recorded and your information will be coded by number only. In addition, only myself as the principal researcher will have authorised access to the data as it will be stored on my personal computer and locked under password. If you would like to be informed of results from the study, your name and address will be recorded but will be stored separately from the data, and will be accessible only through a confidential password known only to me.

I can be contacted at 3792028 and will be pleased to discuss any concerns you may have about participation in the project.

The project has been approved by the University of Canterbury Human Ethics Committee.

Elizabeth Hooton

**APPENDIX G**

**CONSENT FORM**

**Human motivation for Adventure Tourism Participation**

I have read and understood the description of the above-named project. On this basis I agree to participate as a subject in the project, and I consent to publication of the results of the project with the understanding that anonymity will be preserved. I understand also that I may at any time withdraw from the project, including withdrawal of any information I have provided.

Signed.....

Date.....