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Risk taking in adventure racing

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RISK TAKING IN ADVENTURE RACING

A Thesis

Presented to

The Faculty of the Department of Human Performance

San Jose State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

By

Terri Schneider

May 2004

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ABSTRACT

RISK TAKING IN ADVENTURE RACING

by Terri Schneider

While a substantial amount of research has examined risk taking in sports (Breivik, 1996; Levenson, 1990; Robinson, 1985; Rossi & Cereatti, 1993; Rudestam & Slinger, 1997; Straub, 1982), very little is known about the complexities of risk taking among adventure racers. The purpose of this study was to extend the research on risk taking in sport by qualitatively examining experiences and perceptions of risk within the sport of adventure racing. Ten elite adventure racers participated in in-depth, semi-structured interviews ranging from 1.5 to 3 hours. All interviews were transcribed and analyzed inductively (Jackson, 1996; Schensul, Schensul, & LeCompte, 1999). Raw data themes emerged from the interviews producing subsequent higher order themes and general categories. The themes were discussed in relation to the literature on risk taking. Recommendations for future research and implications were also discussed.

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Chapter 1

INTRODUCTION

A substantial amount of research has addressed risk taking and sensation seeking in sport (Bernstein, 1996; Breivik, 1996; Johnsgard & Ogilvie, 1975; Levenson, 1990; Robinson, 1985; Rossi & Cereatti, 1993; Rudestam & Slinger, 1997; Straub, 1982; Yates, 1992; Zuckerman, 1994). This study extends the research on risk taking by offering an in depth examination of athletes' perceptions and experiences of risk within the context of the ultra-endurance sport of adventure racing.

Adventure racing is described as a multi-sport, co-ed team competition, navigated with a map and compass, non stop, through wilderness areas while finding designated checkpoints along a pre-defined route (Schneider, 2001). Relatively unresearched, this ultra endurance sport involves previously determined high risk sports such as mountaineering (Breivik, 1996), kayaking, canoeing (Boga, 1988), white water rafting, horse back riding (Dalloway, 1993), mountain biking (Schneider, 2001), and others.

Preliminarily, a study was executed using Zuckerman's (1994) Sensation Seeking Scale – V (SSS-V) comparing men and women, ultra runners, Ironman triathletes, mountain bikers and adventure racers. Adventure racers ranked high on the scale alongside other previously tested high risk athletes including rock climbers and mountaineers (Schneider, 2001).

Similar to the above study, the academic research that has been conducted on risk taking has predominantly been quantitative. Very little is known about how the athletes themselves perceive and experience risk. This study focuses on exploring the

experiences and perceptions of risk in both men and women adventure racing participants. To that end, I reviewed research on risk, risk in sport, and sensation seeking, as well as qualitative research methods. I consider risk from a personality perspective, a social perspective, and a cultural perspective. The following paragraphs highlight key aspects of risk research as related to this study.

As defined by Zuckerman (1994), sensation seeking is characterized by the seeking of varied, novel, complex, and intense sensations and experiences, and the willingness to take physical, social, legal, and/or financial risks for the sake of such experiences. Sensation seeking behavior can be seen as the outcome of a conflict between states of anxiety and sensation seeking that vary as a function of novelty and appraised risk (Yates, 1990). As some people become more confident through experience at a given task, they may eventually push their limits of risk and seek novel sensations. An individual's personality, genetic predispositions, and social environment are all thought to play a role in a person becoming a sensation seeker or risk taker. In addition, the need for complexity in perceptual stimuli and cognitive problems is a feature of the sensation-seeking individual (Zuckerman, 1994).

There are several factors that determine whether one develops into a risk taking adult. Zuckerman (1994) suggested that high sensation seekers may produce low levels of dopamine. Since dopamine helps generate a sense of satisfaction, high sensation seekers may tend to pursue activities that stimulate dopamine production. Zuckerman also stated that the nurturance or non-nurturance by the family unit and/or society for risk taking behavior could support or stifle a chemically predisposed risk taker at childhood.

In the sporting culture, events such as car racing and parachuting (Johnsgard & Ogilvie, 1975), rock climbing, kayaking, skiing, and piloting a small plane (Slanger & Rudestam, 1997) have been considered high risk, and are events in which sensation seekers may participate. Johnsgard and Ogilvie examined the personality profiles of male race car drivers. These sensation seekers were of high abstract intelligence, high achievement needs, strong heterosexual needs, high exhibitionistic needs, above average need for change, and a high degree of self-sufficiency. These men were very non-deferential, dislike nurturing others, and had a low need for order and planning ahead.

In contrast to personality trait examinations, or strictly biological explanations of sensation seeking, Bernstein (1996), in his historical investigation of risk, discussed the phenomena of risk taking under uncertain internal conditions. The choice to take a risk is dependant not only on the sense of control one has in a situation in which the outcome is uncertain, but also on the success one has had with risk taking activities.

Frey (1991) further defined risk as an “association with an uncertain outcome in which the possibility of significant loss or gain is present” (p. 138). He stated that risk perceptions are based on cultural and social factors, and that our culture determines what is risky. He also noted that social perceptions of risk are related to the public reflection of safety or danger of a situation. Frey added that sport settings in particular, can support risk behavior and that the social self may desire to demonstrate risk in sport before peers and audiences. Sociologically, risk can be evaluated through personal conflict, power, values, or social consensus. Blum (1999) stated that a person can experience and execute a craving for danger and risk taking, or a hunger for a sensation they can feel only rarely

in a world increasingly designed to protect human life. Sport activities within our society can support that drive.

Le Breton (1990) discussed the symbolic meaning of playing with death in extreme sports. He noted the paradox that the more intense the suffering of the extreme athlete, the more the achievement has personal significance. Risk can also generate personal satisfaction enough to resist the temptation to give up. He also stated that this choice to partake in extreme sport could be a perception of the way an individual values his or her own life.

Knecht (2001) echoed this view of the value of life through his interviews with participants of the disastrous 1998 Sydney to Hobart yacht race. Through this event, in which six sailors died due to extreme storm conditions, Knecht uncovered repeated life themes referencing risk, risk taking decisions and the value of life in general. Boga (1988) examined self perception in an interview with John Bachar, a top free soloist rock climber. Bachar emphasized his self perception of control in the high risk sport of rock climbing:

Actually, I'm a conservative climber. Yeah, chicken. I'm always operating way below my level of ability. That's what I call the cushion. I hate the feeling I'm thrashing around up there. If I can't do it with control, I'll back off. (p. 2)

While Zuckerman (1994) addressed the biosocial bases of sensation seeking, Johnsgard and Ogilvie (1975) created personality profiles for risk takers. Frey (1991) and Le Breton (1990) addressed risk both sociologically and philosophically and both Boga's (1988) and Knecht's (2001) work showed the value of the athletes' voices through the results of their interview processes. This study emulated that rich interview

process within the context of various disciplines, by attempting to gather perceptions of risk from a unique sporting group, adventure racers.

Within sport psychology, the qualitative interview process is a potent means of investigating the experiences and perceptions of athletes (Butryn, 2003; Dale, 2000; Jackson, 1996; Sparkes, 1998; Streat, 1998; Veri, 1998). Further, in depth interviews have been compared to the interaction between a sport psychologist and an athlete in mental training sessions (Dale, 2000), allowing the athlete a voice referencing his or her specific personal experiences. Various qualitative studies within sport psychology and sport sociology support this research method (Dale, 1996, 2000; Dalloway, 1993; Jackson, 1996). Streat (1998) offered support of the qualitative process with the following statement, "Various forms of qualitative research can aid our applied practice by increasing our understanding of the contexts and psychological dynamics of sport" (p. 333). Streat also noted that qualitative inquiry can be a critical reference to knowledge as viewed through the eyes of the qualitative researcher:

Much of qualitative inquiry is based on a coherence theory of knowledge, which suggests that there are multiple maps of the world as it is experienced. The transformational move is that we are no longer in the business of trying to discover the one correct map. Rather, we are seeking to construct a useful one. Testing our theories and research findings moves from questions about being right to questions about what they allow us to accomplish. (p. 334)

Through qualitative methods, this study attempted to create a unique map highlighting the perceptions of risk through the eyes of men and women adventure racers. This study employed interviewing as a qualitative research method. Through an

extensive interview process and data analysis, this study examined the experiences and perceptions of risk among adventure racing participants.

Statement of the Purpose

The purpose of this study was to qualitatively examine the experiences and perceptions of risk among a specific group of elite athletes who participate in the sport of adventure racing. A secondary purpose of this study was to explore the social factors that influence how adventure racers perceive and experience risk in their sport.

Significance of the Study

A qualitative examination of the phenomenon of risk in adventure racing, may reveal concepts, belief systems, and learned behaviors that parallel the risk perspectives outlined in the research reviewed for this study (i.e., Levenson, 1990; Zuckerman, 1994).

High risk sports participants have been studied quantitatively with various personality scales and/or with the Sensation Seeking Scale (Breivik, 1996; Johnsgard & Ogilvie, 1975; Levenson, 1990; Robinson, 1985; Rossi & Cereatti, 1993; Schneider, 2001; Slinger & Rudestam, 1997; Straub, 1982; Zuckerman, 1990; Zuckerman, 1994). Adventure racers have proven to be high sensation seekers compared to mountaineers and rock climbers (Schneider, 2001). This study employed a qualitative interview process and a data analysis that is rare within risk research and within sport psychology. This methodology has resulted in a personal view of the participants' life experiences within a risk framework and within a relatively new ultra-endurance sport. Interviews allowed these elite athletes to reflect on their risk taking lives. Finally, it is my hope that the

results of this investigation will contribute to the theoretical literature on risk and sensation seeking in sport.

Limitations

The limitations of the study include the following:

1. It is not possible to guarantee that the participants responded honestly to the interview questions.

Delimitations

1. The study was delimited to 10 participants who have achieved elite success in adventure racing.
2. The age range of the participants was 28 – 50 years old.
3. There were five men and five women participants.
4. The participants were athletes that I recruited through my interactions with them within the sport of adventure racing.

Definition/Description of Terms

1. Adventure Racing

A multi-sport, team competition, navigated with a map and compass while participating in events such as, but not limited to, mountaineering, trekking, white water rafting, canoeing, kayaking, horse back riding, and mountain biking. Co-ed teams move non-stop 24 hours a day for up to 11 days, through wilderness areas while finding designated checkpoints along a pre-defined route. The first complete team to the finish line is the winner.

2. Adventure Racer

An adventure racer is someone who participates in the sport of adventure racing.

3. Elite Adventure Racer

An elite adventure racer is an athlete who has competed in and, completed, an expedition length adventure race (5-10 days or longer) with a full team and who has placed in the top 10 of any or all of the events in which she or he has participated.

4. Risk

Risk is uncertainty. Risk exists whenever the outcomes of an action are not assured (Yates, 1992).

5. Risk Taker

Someone who chooses to take risks in his or her life.

6. Sensation Seeking

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).

Autobiographical Statement

My experiences in sport have uniquely shaped my perceptions of sport and risk in sport. In my 32 years of running experience, including 10 years of racing as a world-class professional triathlete and 9 years of adventure racing experience at the elite level, I have established myself as one of the top female multi-sport endurance athletes in the world. In order to achieve that success, I have chosen to take frequent risks within my sports of choice.

I have competed internationally in 22 Ironman races, including three top five finishes in the Hawaii Ironman Triathlon World Championships, as well as in over 100 other triathlon events of varying distances. I have run several 50 mile and several 100 mile trail races, including the Western States 100 Mile Endurance Run, Wasatch Front 100 and once the La Ruta de los Conquistadores (La Ruta), a three day, 300-mile, mountain bike race across Costa Rica. The distances, training regimens, and events in which I have chosen to participate have become more physically complex and difficult each year. I have produced research on sensation seeking and team dynamics in the same sports in which I have participated as an elite athlete. Because of my athletic background I have a heightened awareness of the risk involved in each of these sports and of what other athletes may potentially be experiencing psychologically, while competing in triathlon, ultra-running, mountain biking and adventure racing.

During the past 9 years, my athletic focus has shifted from triathlon to adventure racing. I have competed internationally in seven Eco-Challenge Expedition Competitions, twice in the Mild Seven Outdoor Quest in China, the ESPN X-Games Adventure Race, the Raid Gauloises and many other 1 day events within the U.S. The value that each challenge brings to my life physically, emotionally, and intellectually is increasingly apparent to me. For this reason, I continue to choose risk in some sporting events previously determined as high risk (Breivik, 1996; Levenson, 1990; Robinson, 1985; Rossi & Cereatti, 1993; Schneider, 2001; Slanger & Rudestam, 1997; Straub, 1982). My desire to excel and experience new sports represents a classic model of

adventure seeking in sport and in extreme sports. I realize that with this experience base, I bring experiential knowledge of risk into the interviews.

The basis of my belief in the power of challenge and risk not only carries over into my athletic life, but my professional career as well. I have based my life and professional message on supporting and facilitating challenge and risk choices for others through my coaching of athletes and corporate clients. At a young age I started choosing challenges and then, having a decent degree of success at these experiences, I continued to choose challenge and risk as a student, a businesswoman, and as an athlete. In this process, my perception of risk changed over time. What was perceived as a struggle early in my life, later proved to be only a small obstacle to achieving goals.

As an already accomplished athlete, I then progressed to adventure racing, and in 1995 participated in my first expedition length race. I was gripped with fear in the mountaineering and ropes section of the race due to my lack of experience at ascending and rappelling on cliff faces. Part of my fear came from being afraid of being afraid, because the feeling of fear in sport at that point in my life was novel. In this event I chose to overcome that fear to accomplish the task and I was eventually successful in completing the event. As I trained further at rope work and grew to understand its safe execution over various terrain, my fears diminished and my ability to take further risks within mountaineering increased. At my second race, I experienced significantly less fear.

I have since evolved in sport to be able to extend past the focus of fear and focus more on living in the moment, moving past pain, and connecting with my survival

instincts. Fear is not always present now, as the perception of how it moves in my life in general has changed. In all this, I have seen risk from a risk taker's perspective. My experiences somewhat parallel risk theory as outlined psychologically and socially in the review of literature for this study. I realize that I will need to consciously avoid imposing my experiences within sport, life, and my work into each interview session. My listening skills will be key in allowing the participants to present their authentic voice.

From sport to work, assessing fears and choosing risk have been common themes in my life. Through my coaching I have also had numerous opportunities to view other peoples' struggles in sport in how they choose risk in their lives. These processes have helped define my natural curiosity to understand others experiences with risk taking life choices. My interest is to contribute to the risk taking literature through qualitative methodology.

Chapter 2

REVIEW OF LITERATURE

This chapter reviewed the literature in the areas of risk taking, sensation seeking, and sensation seeking and risk taking in sport and recreation. Research materials relevant to these areas were reviewed, as well as literature that referenced athletes, events, and/or sports that were considered extreme or risky.

This literature review also included qualitative research methods and qualitative research methods in sport. Qualitative research in sport psychology, interviewing as qualitative research and some examples of qualitative research studies in sport psychology and sport sociology are presented.

Risk Taking and Sensation Seeking

The following research addressed risk taking and sensation seeking as described within the field of psychology. Zuckerman (1983), arguably the founder of sensation seeking research, defined sensation seeking as, “the need for varied, novel and complex sensations and experiences and the willingness to take physical and social risks for the sake of such experience” (p. 285). Zuckerman (1994) also addressed the relationship between risk taking and sensation seeking. He defined risk taking as “the appraised likelihood of a negative outcome or behavior” (p. 124). High sensation seekers find that the sensations they experience are worth any potential risks, whereas low sensation seekers do not necessarily value or tolerate the sensations achieved through risky activities. Nor do low sensation seekers think high risk activities are worth the perceived risks. Zuckerman (1994) stated that risk taking choices depend on the motivational and

emotional states of the individual at the time of the decision to participate in an activity, in addition to general motivational or emotional traits. He believed that risk is necessary for sensation seeking to occur but that risk itself is not necessarily the fully intended goal of a sensation seeker. Choosing risk for the sake of risk is not the goal. Rather, while being attracted to activities that offer novel or intense experiences, sensation seekers are willing to accept the potential risks involved. The risks are necessary and accepted in order to achieve desired satisfying sensations. Addressing both risk taking and sensation seeking as they relate to sport, are important focuses for this study.

Zuckerman's (1994) most current Sensation Seeking Scale (SSS-V) uses 40 questions, 10 in each of the four subscales: Thrill and Adventure Seeking (TAS), Experience Seeking (ES), Disinhibition (DIS) and Boredom Susceptibility (BS). Zuckerman stated that TAS items express a desire to engage in sports or other physically risky activities that provide unusual sensations of speed or defiance of gravity, such as parachuting, scuba diving, or skiing. ES items encompass seeking of novel sensations and experiences through the mind and senses, as in arousing music, art, and travel, and through social nonconformity, or association with groups on the fringes of conventional society. DIS items describe seeking sensation through social activities like parties, social drinking, and sex. BS factors represent intolerance for repetitive experience of any kind, including routine work and interaction with uninteresting people.

Zuckerman's (1994) book *Behavioral expressions and biosocial bases of sensation seeking* is well known in the psychology field as a comprehensive reference for

sensation seeking research, and, has been readily used as a reference for many other studies within this review of literature.

Sensation seeking behavior can be seen as the outcome of a conflict between states of anxiety and sensation seeking that varies as a function of novelty and appraised risk. The need for complexity in perceptual stimuli and cognitive problems is a feature of the sensation seeking trait. Zuckerman (1983, 1990, 1994) addressed the psychophysiology of sensation seeking as a reflection of strategies for processing novel or intense stimulation.

Looking at sensation seeking from a psychophysiological perspective, Zuckerman (1990) noted that novelty and intensity could create sensations resulting from sensation seeking behavior. Zuckerman measured factors such as heart rate, startle reflexes, and skin conductance, and found that high sensation seekers have positive responses to novel stimuli, particularly when they are interested in these stimuli. He interpreted the response differences to novel stimuli between high and low sensation seekers as reflective of different evolved biological strategies for processing these stimuli.

Physiologically and sociologically, there are several factors that determine whether one develops into a sensation seeking adult. These include an increase in euphoria one experiences while seeking novel experiences that is produced partly by the stimulation of dopamine. In the brain, monoamine oxidase enzyme (MAO) aids in the production of dopamine. Dopamine then helps generate a sense of satisfaction within the individual. Zuckerman found that high sensation seekers tend to have low levels of MAO and low sensation seekers have high levels of MAO. Thus a high sensation seeker

has a need to stimulate MAO and dopamine production in order to generate a sense of well being. Sociologically, the nurturance or non-nurturance by the family unit and/or society of risk taking activity, can stimulate or stifle a chemically predisposed sensation seeker at childhood. Both physiological and sociological factors play a role in an individuals risk taking choices.

High sensation seekers are risk takers (Zuckerman, 1994). Personality traits and chemical predispositions in sensation seekers allow them to take on situations and physical challenges that push their comfort zone and elevate their experience level. The more risk experiences sensation seekers acquire, the more comfortable they feel with perceived risk. What a high sensation seeker perceives as low risk, a low sensation seeker may believe is high risk or even dangerous. Low sensation seekers may not understand why high sensation seekers take on the risk that they choose. To a high sensation seeker, the perceived risk is worth the resultant feelings. According to Zuckerman, high sensation seekers accept higher risks to reach their goals.

The Sensation Seeking Scale (SSS-IV and SSS-V) (Zuckerman, 1983, 1990, 1994) have been validated repeatedly by various studies in sport (Breivik, 1996; Levenson, 1990; Robinson, 1985; Rossi & Cereatti, 1993). Additionally, adventure racers have been tested with the SSS-V, showing them to be high sensations seekers (Schneider, 2001). The previously mentioned studies were presented later in this review of literature as relevant to the topic of risk taking in sport and as a comprehensive view of risk as it relates to sport. In addition to studies using Zuckerman's model, the following studies offer additional psychological and historical perspectives of risk.

In reviewing Extraversion-Introversion in regard to personality and group decisions involving risk, Eysenck (1971) discussed the possibility of predicting risk-taking behavior through the study of personality traits. He also looked at group interaction from a risk-taking perspective. From low risk individuals operating as solo entities to the decision making processes of higher risk takers and all within the confines of a group setting.

Helms (1984) presented his sociological “risky shift” phenomena as a valued form of behavior among risk taking individuals in group settings:

When a group verbalizes its decision concerning a risky situation, the group’s decision tends to be riskier than the individuals would have recommended privately. There are several factors that affect the upward shift in risk taking capacity. When an individual realizes that he or she is not riskier than the other members of the group, he or she will adjust his or her risk taking attitude upward. Furthermore, group discussion allows the members to rehearse their arguments regarding the decision and familiarity with a hazard promotes a higher level of acceptable risk concerning the hazard or situation. (p. 23)

Given the team dynamic within the sport of adventure racing, it was important to inquire about team decision making processes through the interviews for this study.

Yates (1992) also looked at risk taking behavior from social, physiological and psychological perspectives. Risk, as related to sensation seeking, was defined as uncertainty. Risk was said to exist whenever the outcomes of an action are not assured. According to Yates, there were three essential elements: a) losses, b) the significance of those losses, and c) uncertainty associated with those losses. Opportunities to take or

avoid risks occur for every person at every age. How one responds depends in part on his or her cognitive, affective, and social development, as well as his or her past experiences.

This study addressed risk perspectives within the sport of adventure racing. The structure of an adventure race, by nature embodies uncertainty. For example, the course itself is disclosed to the athletes only 24 hours before the event. Additional unknown details (weather, terrain) of the course reside within remote, infrequently used wilderness areas. Due to these unknowns, a look at risk within adventure racing is an examination of an important piece of the risk definition as defined by Yates (1992); uncertainty.

Apter (1992) explored the relationship between excitement and anxiety, panic and euphoria. He also reflected on dangerous choices as they exist within situations such as sex, war, and anti-social or illegal parameters. Apter concluded by attempting to raise and answer the questions of why we seek and create arousal situations from biological, cultural and personal perspectives.

Bernstein (1996) produced a comprehensive historical investigation of risk within the context of philosophy, business, sport, and statistics. In his research, Bernstein explored the role of risk in our society. He argued that the notion of bringing risk under control is one of the central themes that distinguish modern times from the ancient world.

Bernstein stated the following:

In the medieval and ancient worlds, even in preliterate and peasant societies, people managed to make decisions, advance their interests, and carry on trade, but with no real understanding of risk or the nature of decision making. Today, we rely less on superstition and tradition than people did in the past, not because we are more rational, but because our understanding of risk enables us to make decisions in a rational mode.
(pp. 3-4)

Similar to Yates' (1990) and Zuckerman's (1983, 1990, 1994) findings, Bernstein (1996) discussed an individual's valuation of a risk opportunity as being dependant upon the reference from which possible gain or loss will occur. This is in contrast to valuation from a reference of what the final value or outcome will be. He discussed the nature of irreversibility of decisions, and the notion that choosing uncertain situations is risky. Bernstein stated that uncertainty rather than mathematical probability is potentially the ruling paradigm in the real world.

In this review of literature, research on sensation seeking and risk taking were presented from physiological, psychological and sociological perspectives. As a segue to the following section on risk taking and sport, it is important to note that Zuckerman (1983) suggested that not all sports provide novel sensations nor do they involve high levels of risk. He also stated that for athletes, risk is not an attraction, rather risk is reduced as much as possible by the athlete through his or her development of skills, planning, and concentration to execute with the highest control possible. Although spectators may regard some sports as very risky, athletes tend to try and minimize risk through skill and preparation. Zuckerman (1994) also emphasized the need for research on perceptions of risk in sport in order to better understand this phenomenon. Thus, the purpose of this study was to inquire about the perceptions of adventure racers as they live and move within their sport.

Risk Taking and Sensation Seeking in Sport

The topic of risk taking in sport has been examined by numerous authors (Adler, 2001; Apter, 1992; Blum, 1999; Boga, 1988; Cheron & Ritchie, 1982; Frey, 1991;

Gurvis, 1999; Johnsgard, 1977, 1978; Johnsgard & Ogilvie, 1968; Knecht, 2001). Much of the research has used various established quantitative personality scales (Cheron & Ritchie, 1982; Johnsgard, 1977; Levenson, 1990) and/or the Sensation Seeking Scale (Breivik, 1996; Robinson, 1985; Rossi & Cereatti, 1993; Schneider, 2001; Slinger & Rudestam, 1997; Straub, 1982; Zuckerman, 1983, 1990, 1994) to establish or define personality traits or levels of risk taking among individuals and/or athletes within high risk sports. Studies presented in this section also addressed the sociological phenomena of risk in sport and perceptions of risk in sport (Boga, 1988; Duanne, 2000; Frey, 1991; Helms, 1984; Knecht, 2001; Priest & Baillie, 1987; Schrader & Wann, 1999; Stranger, 1999).

Johnsgard and Ogilvie (1968) investigated personality variables of national champion, regional champion, and relatively unsuccessful Grand Prix racecar drivers. They then compared their results to other drivers in stock car, rally, and drag racing, and then to a variety of other athletes with regard to personality. What emerged was a description of the “competition” racecar driver. This description included the following: an individual with an unusually high need to achieve and to accomplish tasks that require great skill and effort, the need for high endurance and to work hard at a task until it is completed, aggression with need for dominance, high leadership capacity, somewhat exhibitionistic, external verbal hostility and willingness to argue a point and attack contrary opinions, below average need to feel guilt, or blame, the below average need to affiliate with groups or organizations, and a low need to be needed by other people.

Johnsgard subsequently wrote a number of articles for popular periodicals such as *Car and Driver* (1969), *Road and Track* (1976) and *Playboy* (1978) to address the personality traits of racecar drivers as related to risk taking and sensation seeking and to share his findings on race car drivers with the general public and aspiring drivers. These writings paralleled his academic research in this area.

Johnsgard and Ogilvie (1975) did further research on parachutists, racecar drivers, and football players in a study focusing on risk taking personality traits. They found the three groups to share common personality traits, and, that the racecar drivers and parachutists have more in common with each other than with football players. Commonalities, for example, were their needs for independence and autonomy, verbalizing aggression, assertiveness, self-sufficiency and perceived freedom from group pressure. Johnsgard (1977) speculated these common themes to be reflective of parachutists' and car drivers' need to perform precisely under conditions of great stress and risk.

Straub (1982) compared high and low risk male athletes using the Sensation Seeking Scale. The test was administered to hang gliders, car racers, and intercollegiate bowlers. Straub coincided with Johnsgard's (1968, 1975, 1977) work with race car drivers, showing significantly higher total sensation seeking scores for hang gliding and car racing athletes.

Levenson (1990) compared rock climbers with public servants such as fireman, policeman and residents of a long-term drug rehab program. One of the scales used along with other personality scales, was the SSS-IV (Zuckerman, 1983), which is the Sensation

Seeking Scale that preceded the presently accepted SSS-V scale (Zuckerman 1994). Through this study, Levenson addressed risk taking and various personality traits associated with risk taking and sensation seeking. In defining risk as any purposive activity that entails novelty or danger sufficient to create anxiety in most people, Levenson parallels Zuckerman's (1990) findings.

In his model of risk taking, Levenson (1990) once again supported Zuckerman's (1990) findings that risk takers are persistently searching for highly stimulating experiences. Levenson attributed this to, "low arousability, variously described as low level of activation of a behavioral inhibition system, experienced as a relatively low level of anticipatory anxiety" (p. 1073). Therefore, a motive of risk takers is to increase their unusually low arousal to an optimum level. Levenson also related baseline low arousal levels to fearlessness, as well as the finding that courage is based on other qualities than fearlessness. Cheron and Ritchie's (1982) results supported Levenson's (1990) findings that there are significant decision making, physiological, and social issues related to fear states.

Rossi and Cereatti (1993) continued work with validating the Sensation Seeking Scale by looking at mountain climbers, ski jumpers, cavers, and rock climbers as compared to physical education (PE) students and a control group. They also defined sensation seekers as people who need varied, complex, novel and intense forms of stimulation and who are capable of taking physical and social risks for such experiences. As predicted, the athletes participating in rock climbing, alpine climbing, caving, and ski jumping scored higher than the PE students and the control group.

Robinson (1985) also used the Sensation Seeking Scale, as well as two other trait and behavioral scales, in his study of elite rock climbers. His study included only climbers who were highly skilled in the sport. His predictions were supported and his results were consistent with Zuckerman's (1994) review of research findings that high-risk sport athletes tend to be high sensation seekers. Approximately 70% had a preference for the higher risk of climbing at the upper level of their ability rather than leading easier grades or following another climber on a route. The subjects named hang-gliding, white-water kayaking, downhill skiing, and other high risk sports as substitutes for rock climbing (Robinson, 1985).

Breivik (1996) addressed personality, sensation seeking and risk taking in a 1985 Norwegian Everest expedition. Several psychological tests were administered, among them the SSS-V. Breivik's Everest climbers have proven to be some of the highest overall scorers on the SSS-V. Breivik described sensation seekers as seeing the world as non-threatening and not expecting negative outcomes resulting from interactions with the world. Breivik also cited Zuckerman (1994) in defining high sensation seekers as those who accept higher risks to reach their goals. Breivik cited Levenson (1990) in commenting on the relationship between personality and risk-taking. In his 1996 study, Breivik indicated that Everest climbers, in particular, are more extreme in relation to drive factors, score lower on worry, anxiety and other avoidance factors, and have more stability and maturity than other Norwegian elite climbers. Parallel to Zuckerman's research, Breivik's study suggested that mountaineers' attempts to maximize risk in their sport is not the goal of their activities. The mountaineers believe that the objective risk in

their sport is high but not very high. They have a lower appraisal of risk and/or are willing to take higher risks to reach their goals and/or experience the activity of mountaineering.

Slanger and Rudestam (1997) found that it was opportunity that enticed participants' involvement in extreme risk activities. Risk then, was relative to their desire for, or the opportunity to engage in an activity. Risk takers assess risk as being greater in situations in which they have no feeling of control. Slanger and Rudestam use a social cognitive explanation of risk taking, as a desire for mastery and to understand what enables risk takers to overcome the potentially inhibiting influences of anxiety, fear, and the recognition of danger. In addition to the several scales used in their study, interviews were conducted with skiers, rock climbers, kayakers, and stunt flyers. Responses were analyzed question by question to identify themes across participants' responses. The research method of the present study on risk in adventure racing potentially parallels the interview and analysis processes of Slanger and Rudestam. It cannot be determined through their qualitative research methods as to whether they were rigorous, as their methods are not outlined in detail. Slanger and Rudestam's quantitative results highlighted themes such as calculated risk, control, confidence, willingness to push to the limit, to challenge oneself, to be scared, danger perception, optimism, desire for mastery, testing limits, thrill, art, rhythm, and motivation.

Cheron and Ritchie (1982) addressed risk perceptions in reference to various outdoor activities. Their study viewed risk as a "multidimensional psychological phenomenon which influences individual perceptions and decision processes" (p. 140).

They also used the word uncertainty to define risk, relating to uncertainty of the outcome of an activity and uncertainty of the consequences of a decision made around an activity. They found that levels of perceived risk declined as individuals became more familiar with and interested in the activities. Helms (1984) has shown that mountain climbers will actively promote uncertainty in order to maintain motivation toward an activity. He claimed that a climber's desires for a goal are maintained or increased by maintaining a level of uncertainty in an activity. Therefore, the more the climber aspires to a goal the more he or she is willing to risk to achieve that goal.

Priest and Baillie (1987) stated that in order for an experience to be an adventure, it must have an element of uncertainty about it and that either the outcome should be unknown or the setting unfamiliar. He noted that the adventure experience is also a function of an individual's competence within a particular risky situation. In addition, Delle Fave, Bassi and Massimini (2003) in their work looking at risk perception in high altitude rock climbing, noted that on the basis of personal skill and past experiences what is perceived as risky by one group, can have different connotations by others. Through the present study, perceptions of risk in adventure racing and the prospective uncertainty surrounding this sport will be addressed with adventure racing athletes.

In an unpublished study, Schneider (2001) compared Ironman triathletes, mountain bikers, adventure racers, and ultra-runners using the SSS-V (Zuckerman, 1994). As hypothesized, participants in adventure racing (mean = 26.19 out of 40 possible) and mountain biking (mean = 26.17) scored higher than triathletes (mean = 20.24) and ultra-runners (mean = 22.42) with adventure racers and mountain bikers scoring almost as high

as Breivik's (1996) Everest mountain climbers (mean = 28.9). Schneider (2001) found adventure racers to score high on the SSS-V, as high as previously determined high risk sports such as rock climbing (Robinson, 1985). These quantitative findings within adventure racing reflected the need for a further examination of adventure racing from the athletes' personal perspective. Qualitative reflection within adventure racing will add significantly to the present risk research in extreme sports.

The present study used an interview process to extend the quantitative risk research by addressing the unique adventure racer athletes' perspectives of risk within sport. Following are additional literature and research that supported the present research on risk within sport, reflecting on risk qualitatively, ethnographically, and sociologically.

In an attempt to answer the question of why athletes partake in high risk sports, Boga (1988), through an interview process, profiled 10 world class athletes in sports such as hang gliding, cycling, rock climbing, and motorcycle racing. Boga found that high risk athletes are not fearless, but that they have learned how to handle fear. The climbers he interviewed see fear as an acceptable and potentially useful emotion in helping keep them safe. The athletes interviewed addressed their own perceptions of fear and risk as it related to training for their respective sports and subsequent performances. Additionally, Karinch (2000) attempted to expose the why, how, and what it means to live on the edge through stories and personal interviews with extreme athletes. She spoke of what success means to these athletes in cultivating inner strength, confidence, discipline and taking on challenge. Karinch offered a guide for the reader to tap into his or her own potential for pushing the edge.

Knecht (2001) detailed his research of the disastrous 1998 Sydney to Hobart yacht race in which six sailors died due to extreme storm conditions. “Hobart,” as the athletes call the event, is arguably one of the most challenging yacht races in the world due to the conditions, between southern Australia and Tasmania. In his extensive post event interviews with sailors involved in the event, Knecht uncovered repeated themes that reference risk, as previously defined by other researchers within this review of literature (Breivik, 1996; Slanger & Rudestam, 1997; Yates, 1990). Following a similar interview process with participant adventure racers, this study on risk in adventure racing also looked for relevant repeated themes.

In Le Breton’s (1990) work he reflected on a particular theme; the symbology of playing with death in extreme sports. He did this in part by noting the paradox that the more intense the suffering of an extreme athlete, the more the achievement has personal significance or established personal satisfaction in resisting the temptation to give up. He stated, “The legitimacy of surviving in a symbolic game with pain, death and bodily injury brings to light a radical truth for the subject, as a figure fated to say yes or no” (p. 1). Adventure racers are faced repeatedly with a similar dilemma to continue participating in their sport, where pain and bodily injury are daily and hourly occurrences. LeBreton (1990) stated that this choice to partake in the extreme of sport can be a reflection of the value of the individual’s life. He noted that extreme athletes under certain circumstances are seeking through their activity “the object of enthusiastic research designed to heighten the pleasure in life by inundating it with emotions” (p. 3).

To emphasize the above theme, he quoted a specialist in solo climbing (climbing without a rope or protection):

While climbing solo, you experience moments of intense stress and you manage to dominate them...Even if there was no transfer to my daily life I would carry on doing solo just for the pleasure of this feeling of freedom and the unique or even extreme sensation that goes with climbing without safety equipment. (p. 4)

In explaining the desire for adventure and excitement, Zuckerman (1983) emphasized the unnecessary theory that risk takers postulate death wishes. Groves (1987) agreed, and in line with Le Breton (1990), claimed that contrary to a death wish, most risk takers in sport actually have a 'life wish'. Because their activities add excitement, which gives value to their life, risk takers do not want to end it. Groves compared this concept to reinforcement theory. He stated that as high risk athletes get positive reinforcement for their behavior, the behavior becomes more frequent.

Backing up the above findings (Groves, 1987; Le Breton, 1990; Zuckerman, 1983), Schrader and Wann (1999) in their study on high risk recreation, dispelled their hypothesis that death anxiety and gender would be the greatest contributing factors to involvement in high risk recreational activity. The variables taken into account in the study included mortality related variables, psychological variables, and demographic variables. Their hypothesis regarding death anxiety and gender being the highest predictors of risk taking behavior were not supported.

Duanne (2000) quoted Oates to emphasize the concept of one choosing risk for the sake of living life to it's fullest:

One might then be a person for whom the contest is not mere self destructive play but life itself; and the world, not in spectacular and

irrevocable decline, but new, fresh, vital, terrifying and exhilarating by turns, a place of wonders. (p. 1)

Duanne (2000) highlighted various individuals who have exhibited a complete physical, intellectual and emotional devotion to climbing and climbing new routes on El Capitan in Yosemite Valley, and these athletes' willingness to justify extreme levels of risk to do so. He mentioned the concept of "security of total purpose" which references a climber's purpose for a risky activity and the comfort in executing that purpose. Comfort in this case involved the placing of new routes, or free climbing existing routes, and the satisfaction won in these activities on the El Capitan wall:

So, having worked hard from dawn until dusk for nearly a week, having been literally shit upon by climbers high above us, cleansed by a warm summer rain, and buzzed by peregrine falcons, we neared the summit badly sun burnt, many pounds skinnier, and covered in filth and scabs and open wounds; profoundly exhausted and also, very, very happy in the way of tired and healthy young animals. (p. 22)

Twight (2001) extended the concept of satisfaction through risk, in his book, *Kiss or Kill: Confessions of a serial climber*. Twight stated that his climbing choices, which are very extreme by any standards, are his attempts to "rave and scream" against mediocrity. He made it clear that climbing is not just about the summit but also about the experience of choosing risk to conquer demons within. Duanne (2000) captured the nature of the extreme athlete within a particular extreme playground, Yosemite. Twight used the world's most difficult mountains as his backdrop in an attempt to peruse his extreme risk taking character. The nature of my present study is to examine the risk taking parameters within the sport of adventure racing and this study's participants.

Risk in extreme sport is examined in Blum's 1999 article in the *New York Times*. He stated that a person can experience a craving for danger, the hunger for a sensation they can feel only rarely in a world increasingly designed to protect human life. Other popular articles by Gurvis (1999), Greenfield (1999), Adler (2001), and Cole (2002), in *Selling Power*, *Time*, *Elevation*, and *Trail Runner* magazines, respectively address the question of why Americans seek risk more than ever before in sport and/or business.

In an ethnographic study related to surfing culture, Stranger (1999) examined risk taking in Australian surfing from an aesthetic perspective. He embarked on a 10 month surfing trip in Australia during which he lived among the surfing culture, and used a combination of surveys, interviews, and participant observation. The study argued the following: "1) aestheticization facilitates risk taking in the pursuit of ecstatic, transcendent experience; and 2) the surfing aesthetic involves a postmodern incarnation of the sublime that distorts rational risk assessment" (p. 265). While Stranger acknowledged already established "cathartic properties" of risk taking as explained and addressed sociologically, he noted that cathartic properties on their own, fail to account for the reason participants chose risk experiences. Stranger attempted to address the aesthetic or experiential thrill as seen through and described by the surfers who participated in his study. Much of his findings paralleled the theme of risk as giving quality to the value of one's life as mentioned by Groves (1987) and Le Breton (1990).

Frey (1991) reflected on social risk and the meaning of sport in his essay on, definitions of risk, traditional sociological risk analysis, and the application of risk to sport. According to Frey, Sigelman agreed with the definition of risk as an "association

with an uncertain outcome in which the possibility of significant loss or gain is present” (p. 138). Frey discussed risk perceptions as being based on cultural and social factors, stating that culture determines what is risky and that social perception of risk is related to public reflection of safety or danger of a situation. Albert (1999) in his study on physical risk and injury in cycling, also found risk to be a constituent of the culture of sport. Cyclists were found to accept that risk was a part of their daily training and racing.

Eysenk (1971) and Helms (1984) sociologically discussed their work on risk taking within groups. Risk was evaluated through conflict, power, values or consensus.

Frey added the following while reflecting on several sociological theories:

Functionalism is a perspective on risk aversion; conflict theory is concerned with the unequal distribution of risk; symbolic interactionism considers risks to identity and self-concept; and phenomenology seeks to detail how individuals construct the reality of risk perception, acceptance, and management in their daily lives. (p. 140)

In looking at the phenomena of risk, this study addressed the participants’ perceptions of risk, their self-concept around risk, and how they brought these to their team environment.

Frey (1991) extended the definition of risk as a social assessment by once again using the term uncertainty: “the distribution of uncertainty or harmful outcomes associated with an event or activity” (p. 139). He noted that risk, as an integral part of the North American value structure, is generally valued positively, particularly if success is the outcome of the risky action taken. Risk in sport is more highly valued than non-risk behavior. Groves (1987) called risk taking in sport a “modern day rite of passage” in

emphasizing the following: “And so, today, a lot of people are looking around and saying, ‘Who am I?’, and some of them are finding the answer in high risk sports” (p. 193). Frey added that risk is an additional dimension that aids sociologists in understanding what sport means to participants. Lyng (1990) noted that the view of risk from a sociological perspective is rare and warranted, and in his study he defined “edgework” to be a social psychological analysis of voluntary risk taking. He tied together not only political variables to risk taking behavior but also addressed sensations and feelings of the risk taker. The latter was examined in this study and within the sport of adventure racing.

Priest (1992) looked at one’s perception of risk as being a result of perceived competency within outdoor activities. His findings emphasized that one’s view of a challenging adventure experience is defined by the relationship between one’s interaction with situational risk and one’s perceived personal competence. The choice to engage risk is an effort to exert control over the outcome of an uncertain, novel situation. Ewert (1985) indicated that mountain climbers climb because of the challenge, catharsis, for the physical setting, and because it creates opportunities to redefine one’s locus of control. He pointed out that successful, experienced climbers tend to take on more risk, than inexperienced climbers and that their comfort zone on mountains is significantly different than those unfamiliar with the activity. Thus experienced climbers exhibit greater self-efficacy within the activity. Robinson (1992) also addressed perceptions of situational risk, decision making and coping qualities of successful risk takers. He looked at post performance appraisal of risk takers and how their behavior affected further risk choices.

Donnelly (2003) added that within the subculture of sport, it is deemed necessary for athletes to suppress any sense of vulnerability in order to participate at a committed level in their sport. In this, he addressed the question of whether athletes are denying potential dangers inherent in high risk sports in order to justify their risk choices.

According to Seff, Gecas, and Frey (1993), Frey and Eitzen stated that because the sport setting is a product of social reality and a microcosm of society, it provides researchers a venue from which to draw studies about the complexities of social life and behavior. They emphasized that risk taking and dangerous sport participation is a viable and defensible arena with which to draw rich information in sport. In defining value in the arena of risk in sport, this study viewed the athlete's perceptions of risk within the sport of adventure racing and the value that risk brings to their lives.

In examining risk taking and sensation seeking in sport in academic research, I found that most of this research used quantitative methods to establish levels of risk taking among athletes. Several popular press books and magazine articles used an interview process to obtain athlete perspectives in reference to risk and pushing the edge in her or his sport (Adler, 2001; Boga, 1988; Duanne, 2000; Karinch, 2000; Knecht, 2001). But these studies fall short of rigorous analysis of their findings. This research project used qualitative interview methods and thematic analysis to address adventure racers' experiences and perceptions of risk in an attempt to extend the risk research in sport.

Qualitative Research and the Interview Process

Over the past decade, numerous researchers have begun to acknowledge the benefits of qualitative inquiry in the investigation of social and psychological phenomena (LeCompte & Schensul, 1999; Locke, 1989; Sparkes, 1998). Interviews and thematic analysis have become a popular and rigorous means of unveiling substantive experiences and unique perspectives of research participants (Butryn, 2000; Dale, 2000; Jackson, 1996; Veri, 1998), and were the guiding methodology for this study. The following section covers various methods within the qualitative paradigm that were used as guidelines for the methods of this study.

In focusing on the interview process, Rubin and Rubin (1995) started their book with the following:

Qualitative interviewing is a great adventure; every step of an interview brings new information and opens windows into the experiences of the people you meet. Qualitative interviewing is a way of finding out what others feel and think about their worlds. Through qualitative interviews you can understand experiences and reconstruct events in which you did not participate. Through what you hear and learn, you can extend your intellectual and emotional reach across time, class, race, sex and geographical divisions. (p. 1)

Noting the differences between a conversation and the interview process, Rubin and Rubin stated the importance of the role of the interviewer within the interview process. They noted that the researcher guides the interview. The researcher introduces questions and states requests during the process to explore questions in depth, encouraging reflection from the participant. Understanding is achieved by the researcher through his or her encouragement of participants to describe their world in their own terms. Thus, the researcher's role is intimate and critical in gathering relevant data. Rubin and Rubin

elaborated on this relationship between the participant and the researcher as being a “systematic effort to really hear and understand what people tell you” (p. 17), and the importance of the researcher to “come armed with an openness to new meanings and perspectives” (p. 17).

Seidman (1998) explained the purpose of interviewing and comprehensively outlined methods of the actual interview process. He also guided the potential researcher through a check list of executing an interview study, from obtaining informed consent forms, to analyzing, interpreting, and sharing, interview materials. He also emphasized the importance of interviewing as a relationship between participant and interviewer. Seidman offered a comprehensive view of qualitative inquiry within the method of interviewing.

The interview methods outlined by Rubin and Rubin (1995) and Seidman (1998), were significant references for developing the interview process for this study. LeCompte and Schensul (1999) and Schnensul et al. (1999), present pieces of qualitative research methods and were used to help generate the methods section of this study. Additionally, and designed with the novice field worker in mind, LeCompte and Schensul (1999) and Schnensul, Schensul and LeCompte (1999) cover paradigms within ethnographic research, defining ethnography, research design overview, choosing qualitative projects, collecting data, and analyzing data. Taylor and Bogdan (1998) discussed how qualitative researchers make sense of and analyze their data. They offer techniques that have been proven to get the most out of one’s data. During the data analysis for this study, these guidelines were taken into account.

Glesne and Peshkin (1992) shared their stories of how qualitative research was discovered in their personal lives. They emphasized the need to accept and acknowledge that there are diverse and dynamic methods of gathering data that are trustworthy. What one researcher presents in a particular study, may appear different within the same content from a different researcher. They noted that the term qualitative research is merely an umbrella for various philosophical orientations to interpretive research, for example, phenomenology, educational criticism, or others. They cited the importance of being open to learning various social phenomena and from a variety of perspectives, in order to potentially mix techniques. Glesne and Peshkin showed that there is a value in various forms of qualitative methods and that diversity adds to the depth of research.

Wolcott's (1990) book focused toward those who write postpositivistic, ethnographic, phenomenological, subjective, case study, qualitative, hermeneutic, and/or humanistic research. He included clear sections on how to get started writing, when to begin writing, where to begin, how to focus the problem, sorting and organizing data and more. Wolcott presented comprehensive information on the qualitative process and was drawn upon frequently for this study.

Butryn (1998) cited Taylor as stating the following about qualitative research methodology: "It seeks to describe and understand a given phenomenon through the experiences of participant's, as expressed through their own words" (p. 1). Theory is constructed from the data rather than the process being molded around a pre determined hypothesis. Taylor emphasized that the phenomenon studied is a culmination of the participant's shared experience as well as the participant and researcher interaction,

reiterating the key role of the researcher in the study. In trying to understand athletes' experiences in sport, qualitative methods should be employed, particularly in in depth interviews. Butryn noted rigorous examples of research interviewing and the increasing frequency and significance of qualitative methods within sport psychology. In trying to understand athletes' experiences with risk in adventure racing, qualitative interviewing was the method of choice for this study.

Glesne and Peshkin (1992) and others (LeCompte & Schensul, 1999; Rubin & Rubin, 1995; Schensul et al., 1999; Seidman, 1998; Wolcott, 1990), have created extensive guidelines for the execution of rigorous qualitative research, all of which were used as references for this study. Butryn (1998) emphasized the need to “describe and understand” (p. 1) said phenomena through the voice of participants. This study executed an interview process using the above research as a guide, in order to “describe and understand” the perceptions of risk from the voice of participating athletes.

Qualitative Research in Sport

Since 1989, when Locke discussed the potential future of qualitative research in sport and physical education, many rigorous studies in sport and sport psychology have used qualitative methods to view specific phenomena within sport (Butryn, 2001; Dale, 2000; Jackson, 1996; Streat, 1998; Veri, 1998). The following literature will offer a discussion of qualitative research in sport studies and sport psychology.

Locke (1989) discussed the concerns surrounding the definition of qualitative research, by presenting it as a way of answering the question, “What’s going on here?” (p. 2). He also appraised the strengths and limitations of qualitative research as compared

with conventional modes of inquiry within physical education. He suggested ground rules for future qualitative studies, and perused future implications for this method of work including detailed commentary on the evolution of this form of research with sport. Locke noted that the qualitative research tradition is a collection encompassing many different research perspectives. He also stated that qualitative work being presented in first person is important due to the intimate involvement of the researcher within the context of the research.

Strean (1998) discussed the potential benefits of using qualitative research in sport. He emphasized that in order to understand the benefits of qualitative research, one must accept different views of knowledge within qualitative approaches through interpretation, verification and evaluation of phenomena of interest:

Much of qualitative inquiry is based on a coherence theory of knowledge, which suggests that there are multiple maps of the world as it is experienced. The transformational move is that we are no longer in the business of trying to discover the one correct map. Rather, we are seeking to construct a useful one. Testing our theories and research findings moves from questions about being right to questions about what they allow us to accomplish. (p. 334)

Strean (1998) also noted that, in reference to interpretation and analysis, the reader, rather than statistical analysis, makes generalizations from qualitative work.

In Sparke's (1998) article on validity in qualitative inquiry, he addressed the researcher's need to judge the rigor in this form of research. The focus was on current notions of validity in qualitative sport psychology. This is addressed in his discussions of associated problems, reconceptualization of current relevant validity, various scholars' views of validity framing and their multiple meanings, and the socially constructed nature

of validity. Sparkes discussed validity by presenting alternative criteria for judging qualitative work:

In this view, the terrain upon which we make judgments is continually shifting and characterized by openness rather than stability and closure. It is in this situation of flux that the qualitative research community within sport psychology must grapple with the criteria issue and learn to judge varying approaches in different but appropriate ways. (p. 382)

Veri (1998) noted that in qualitative research, reliability in the traditional sense, is not of concern to the researcher. It is not the hope in qualitative methods that other investigators will repeat fieldwork or confirm established results. It is unrealistic for another researcher to have similar or the same insights and perceptions. Lock (1987), Streat (1998), Sparkes (1998) and Veri (1998) offered vital insights as to how qualitative research differs from quantitative, and the significant value these differences offer the research in sport. In the following paragraphs, information is offered from Cote', Salmela, Baria and Russell (1993) and Dale (1996), on rigorous qualitative research methods within in sport psychology.

Dealing specifically with organizing and interpreting large amounts of unstructured data, Cote' et al. (1993) discuss methods of coding, creating tags and regrouping, or creating categories within data segments. They also emphasized the importance of studying the entire subjective experience of participants by "examining the way people perceive, create, and interpret their world" (p. 127). Additionally, they noted the active role of the researcher as the one who facilitates or creates the situations in which the participant reveals in depth information about a specific phenomena.

In his article on existential phenomenology in sport psychology, Dale (1996) cited Dewar and Horn as contending the following: “Abandon the belief that there is only one legitimate way of knowing in sport psychology and begin to understand that it is possible and desirable to examine behavior in different ways” (p. 308). He emphasized that experience in sport has often been overlooked and perhaps neglected. He encouraged researchers to consider alternative paradigms from which to view the experience and perspective of the athlete and that those experiences and perspectives are viable sources of information. The following studies are examples of qualitative studies in sport and sport psychology all using an interview process. Key points from each article that were relevant to this study are highlighted below.

In a qualitative study in sport studies, Veri (1998) examined how white women negotiate racial constructs using an interview process. Her study involved women who hold positions of leadership in collegiate athletic departments. While professional status was the main criteria for selecting participants, Veri also took into account various geographical locations around the United States. She noted that racial perceptions vary from one region to another and that a social geographical cross section of participants would potentially allow for the best representation of the topic. Her interview guide consisted of open ended questions with the intent of allowing the participants to talk freely about their experiences and perceptions of race.

In a study examining the technological life histories of seven elite track and field athletes, Butryn (2001) engaged in an interview process, participant observation and a narrative analysis. Butryn noted the unique qualification of the participants in telling

their stories and relating their life experiences with technology amid the “feverish influx” of various technologies within the culture of elite track and field. He further stated that these unique voices are perhaps “the first step towards democratization of sport technologies” (p. 19), emphasizing the need and importance of the athletes’ voice in order to take that first step.

In the second of a two-part study on burnout in competitive junior tennis players, Gould, Loehr, Tuffey and Udry (1996) conducted interviews with the 10 individuals who showed the highest burnout in the first phase of their quantitative work. A content analysis was executed and then all cases examined with reference to previously existing models of athlete burnout. Different from other qualitative studies done in sport using an interview process (Butryn, 2001; Dale, 2000; Veri, 1998), this study had pre-existing criteria from which data would be compared. This was done in contrast to other studies in which the data or experiences of the athletes dictated the results. Defining criteria prior to the interviews does not fully allow the athlete’s unique voice to emerge. In this, the interview process was not set up to allow for the athletes and the interviewer to create unique themes, thus the data may have been the result of predetermined themes.

In her work on flow experiences, Jackson (1996) conducted an in depth qualitative study of flow states in elite athletes. She interviewed 28 athletes representing seven sports on their perceptions of flow state during performance. She used an interview guide based on previous guides used in sport flow research. Her guide was pilot tested on four athletes for clarity and additional minor modifications. Jackson emphasized the need for the researchers to become thoroughly familiar with the data

collected in an interview process, through self transcription of the interviews. After transcription, salient themes were noted and compiled into a set of quotes or paraphrased quotes. The main themes of each athlete's interview were profiled. Themes were then compared to Csikszentmihalyi's (1990) dimensions of flow and then into higher order themes to synthesize with the dimensions of flow previously established. Jackson noted the importance of establishing trustworthiness through, thick description, keeping a reflexive journal or an investigator's journal of the process, triangulation, peer debriefing in which investigator's peers are involved in decision making regarding the collection and analysis of data, and an audit check from an outside source. Many of these methods were used in the present study.

Jackson, Dover, and Mayocchi (1998) conducted a qualitative investigation of 18 Australian athletes' experiences in winning Olympic gold medals between 1984-1992. The purpose of the study was to uncover how Olympic successes impacted the individual lives of these athletes. An interview guide was developed covering the Olympic experience in depth. Interviews were taped and conducted in person at the participant's venue of choice. Themes were extracted from transcribed data, modified based on participant feedback and then analyzed using QSR NUD.IST computer software. Information from the program was drawn into raw data themes. Consensus of researchers then placed themes into additional groupings.

The purpose of Dale's (2000) study of seven elite decathletes was to capture the experiences of these athletes during their most memorable performance. To emphasize the importance of the participant as the expert in this area, he conducted

phenomenological interviews. Dale noted that validity, as defined in qualitative research methods, is lacking in phenomenological research if first person description of the phenomenon is not used. Interviews were transcribed and content analyzed with two major themes emerging. These were distractions, and coping strategies. Dale noted that participants in a phenomenological study are selected due to their experience with a particular phenomenon and the possibility of them providing a rich description of their experience within this context. In this, participants are not selected at random nor to meet statistical requirements. He suggested that researchers in the field of sport psychology consider using the interview processes as a means of learning more about the experiences of the athletes and specific insight into the individuals being interviewed. This strategy was the basis for method selection for this study.

Dale (2000) used the bracketing interview as a means to examine any potential research bias. This was done through a self reflection on the topic investigated using the proposed interview guide. He also emphasized the need to be a good listener, promise and execute confidentiality, uphold authenticity in presenting participant's stories as stated, and build trust and rapport between researcher and participant. Dale's study was also used as a guide for the execution of the present qualitative study.

Rigorous studies in sport psychology and sport studies were outlined in this review of literature (Butryn, 2001; Dale, 2000; Jackson, 1996, Veri, 1998). These studies were found to be relevant to the present study in their use of qualitative methods to view specific phenomena within sport. Through an interview process, this study examined the experiences and perceptions of risk among elite athletes who participate in the sport of

adventure racing. The social factors that influence how adventure racers perceive and experience risk in their sport, were explored. The above literature were used as a guide in establishing rigor and appropriate research methods for this study.

Summary

In this review of literature, risk and sensation seeking were reviewed and each defined as experienced by individuals and/or athletes within various studies, sports, and the field of psychology in general (Bernstein, 1996; Eysenk, 1971; Yates, 1990; Zuckerman, 1990, 1994). Risk itself was reviewed from a personality perspective and a social perspective.

Research projects were reviewed that looked at risk taking groups within sport with a particular emphasis on previously determined high risk sports (Breivik, 1996; Cheron & Ritchie, 1982; Frey, 1991; Gurvis, 1999; Johnsgard, 1977, 1978; Johnsgard & Ogilvie, 1968; Robinson, 1985; Rossi & Cereatti, 1993; Schneider, 2001; Slinger & Rudestam, 1997).

Qualitative inquiry as a research method and as a research method within sport psychology were investigated and discussed. In particular the emphasis of literature was on interviewing as a qualitative method (Butryn, 2001; Dale, 2000; Jackson, 1996; Veri, 1998).

It can be concluded that risk in sport and risk in adventure racing had not been explored qualitatively, leaving unheard voices of adventure racers from experiential and perceptual bases, and as they reflect upon their sport and their lives.

Chapter 3

METHODOLOGY

This chapter defines the selection parameters of participants for the present study. It also describes the qualitative research methods used in the interview process with the adventure racing participants. In addition it details the methods used to interpret the interview results, and establish academic rigor, for this study. The purpose of this study was to examine the experiences and perceptions of risk among adventure racing participants.

Participants

Elite adventure racers asked to participate in this study were five males and five females between the ages of 28 and 50 who have completed, with full teams, an expedition length adventure race (5-10 days or longer), and who have placed in the top 10 of any or all of the events in which they have participated.

Ten adventure racers were interviewed. Seidman (1998) recommended a number of participants that will allow for saturation of information within a topic. Saturation was defined as a point when a researcher begins to hear the same information being reported. In reference to sample, size he also noted the need to address issues that the researcher may find personally prohibitive, such as time, money for travel, and other limits surrounding potential needed resources.

Using Seidman's (1998) guidelines, 10 individuals were selected using a networking process through my involvement in the sport of adventure racing. Participants were selected based on their status in the sport. Specifically, some of the

most competent, and accomplished, adventure racers in the world were interviewed for this study. The point of the selection was to obtain rich description from different individuals within an elite population (Dale, 1996, 2000). They were asked by phone or email to participate in this study. Participants were informed that the interviews would focus on the topic of risk.

Research Design

Qualitative research methods have been recognized in sport psychology as a viable, means to uncover athlete experiences and perspectives (Butryn, 2003; Dale, 1996, 2000; Sparkes, 1998; Streaan, 1998). As stated clearly by Streaan, “Various forms of qualitative research can aid our applied practice by increasing our understanding of the contexts and psychological dynamics of sport” (p. 333). Further, Cote’ et al. (1993), attest that these research approaches are needed in sport psychology to “gain a better understanding of human behaviors in sport and exercise settings” (p. 128).

Most of the previous research in risk taking and sensation seeking in sport have used quantitative methods that rely on various personality profiles and/or Zuckerman’s (1994) Sensation Seeking Scale (Breivik, 1996; Johnsgard & Ogilvie, 1975; Levenson, 1990; Robinson, 1985; Rossi & Cereatti, 1993; Slinger & Rudestam, 1997; Straub, 1982). No purely qualitative studies have examined the phenomenon of risk in sport or risk in adventure racing.

This study qualitatively examined the experiences and perceptions of risk among adventure racing participants. An interview process was used, including a bracketing interview and pilot interview. I kept a reflexive journal, and a peer review was executed.

I used thick description in presenting findings. Member checking took place with transcripts, followed by an inductive data analysis (Jackson, 1996; Sparkes, 1998). This study not only contributes to the risk research, but also adds to the expanding list of qualitative research in sport psychology.

Interview Strategy

Bracketing Interview

An interviewer who is familiar with qualitative interviewing methods interviewed me with the same interview guide that was used in the study. This bracketing interview was executed prior to any of my participant interviews in order to evaluate the interview questions, allow me to voice potential biases, and to develop an understanding of the experience of being interviewed (Butryn, 2003; Dale, 1996, 2000; Jackson, 1996; Veri, 1998). Dale noted the importance of the bracketing interview in creating a “consciousness of presuppositions”. He stated that the researcher cannot pretend that presuppositions do not exist, but must acknowledge them by using a bracketing interview as an attempt to take them into account. Butryn further stated the significance of the bracketing interview as a way to articulate the researcher’s own “life encounters” as well as his or her own existence with the phenomena being addressed.

Participant Interviews

Semi structured interviews were conducted in settings deemed suitable to the participant (Jackson, 1996). To obtain this data, travel was required throughout California, Colorado, and Oregon. Two interviews were also conducted onsite at a post

event venue in Fiji. In addition, three interviews were conducted on the telephone using a phone device suitable for taping phone conversations.

Semi structured interviews allowed for flexibility in the interview process, while having the direction of the interview guide to allow data to unfold (Schensul et al., 1999). Each interview was audio taped, transcribed, and returned to the respective interviewee allowing the participants to check transcripts for accuracy (Jackson, 1996).

Within the interviews, participants were asked to reflect on risk taking views, beliefs, perceptions, and experiences from childhood to present day. Hobbies and other areas of personal interest outside of adventure racing were noted to draw parallels to their risk taking lives within sport or outside of sport. Interviewees were asked about their decision making processes in race situations, how they feel about choosing novel or new situations, whether their decisions feel risky for them, and whether they have a method or plan for executing fear inducing behavior. They were asked to comment on their willingness to push perceived limits in their sport, their willingness to challenge themselves, and their willingness to be scared. They were also asked their views on risk and gender. Participants' future race goals were discussed in an attempt to highlight their plans to engage in future risk taking experiences within the sport.

The same interview guide was used for all participants and provided a useful structure for the interview process (Jackson, 1996). The aim of the guide was to use questions that were relevant to the topic and were also open ended, allowing the participant to best describe his or her first person experiences (Dale, 1996, 2000). Open ended questions such as: "What was that like", "Can you tell me more about...?", or,

“How did you feel when that happened” (Dale, 2000, p. 22), prevent the interviewer from asking leading questions.

Establishing Academic Rigor

Various researchers have stressed the importance of creating new criteria for establishing academic rigor in qualitative research (Butryn, 2003; Dale, 2000; Sparkes, 1998). Butryn references Lincoln as stating that criteria such as validity and reliability, as previously defined for quantitative research, have no place in qualitative work. Yet because of the importance of what these criteria represent to rigorous research, others have reconstructed their meanings for qualitative methods (Sparkes, 1998; Streat, 1998; Veri, 1998). Criteria for evaluation of this study will include the following:

Validity. Although establishing validity specific to qualitative studies is of “utmost concern” in qualitative research (Dale, 1998), Sparkes (1998) ultimately renounced validity as previously defined within quantitative methods in sport psychology. He presented the following: “The qualitative research community within sport psychology must grapple with the criteria issue and learn to judge varying approaches in different but appropriate ways” (p. 382). He emphasized alternative reflections for judging qualitative work in that the terrain upon which we make judgments is continually shifting and characterized by openness, rather than stability and closure. He made a case for “letting go of the term validity completely and seeking other judgment criteria that are more suitable for the diverse forms of inquiry and interests” (p. 382).

In defining validity for this project, I used methods previously described in qualitative research in sport studies. In addition to first person description of the participant's experiences, Dale (1996) recognized the importance of maintaining a log (*reflexive journal*) of one's thoughts throughout the process of the study, as a means to establish qualitative validity. Jackson et al. (1998) used *member checking* in a qualitative study addressing the experiences of Australian Olympic gold medallists. Dale (2000) also used member checking in his study of elite decathletes in order to confirm each participant's accurate account of his experiences.

Dale (1996) defined an additional criterion for validity in qualitative research as whether a reader of the study is given description enough to see the same things as the researcher. This study used *thick description* in data analysis. Veri (1998) and Butryn (2003) also emphasized the need for direct participant quotations from interviewees, noting the importance of allowing the participant to speak for him/herself. Butryn viewed resultant interview texts as "co-productions of a close relationship between myself and the participants" (p. 118). Additionally, Locke (1989) stated the following:

The qualitative researcher is disposed to believe that knowledge about behavior is greatly enhanced by understanding the meanings people give to their actions. That proposition, in turn, motivates much attention to the task of penetrating how those being studied view their world. The perceptions, attitudes, beliefs, and assumptions of the participant are a primary target for much of the work done in the study. (p. 9)

In this study, participant's perceptions, attitudes and beliefs were centralized.

Reliability. In qualitative research, reliability in the traditional sense is not of concern to the researcher (Sparkes, 1998; Veri, 1998). Veri noted that it is not expected that other investigators will repeat our field work or confirm our results. Additionally, it

is unrealistic for another researcher to have the same insights and perceptions. Citing Sanjek, Veri stated that “the reliability of a qualitative study is found instead in the integrity and ingenuity of the research design” (p. 82). In this, I do not expect my study to be able to be replicated.

Additional methods used in this study to enhance the rigorousness of the findings are the following:

Reflexive journal. The reflexive journal is a diary kept regularly by the investigator, recording information about decisions made on research methods and the reasons for making them (Butryn, 2003; Jackson, 1996). I kept notes of this type to help clarify my thought processes as I made decisions about the interviewing process, analysis of the interviews, and the write up of the results.

Peer review. By reading the proposal, samples of transcripts, and the reflexive journal, a person not involved in the study examined both the methods of this study and credibility of the findings. This peer reviewer was someone who has had experience in peer reviewing qualitative research and made judgments as to the validity of the research (Jackson, 1996; Sparkes, 1998).

Thick description. Streaan (1998) described *thick description* as providing “rich characterizations of the current phenomena” (p. 335). He also stated that the success of a qualitative project depends on the researcher’s ability to provide “deep, dense, detailed” accounts of the transcribed data so that readers are able to vicariously experience the key events being described and interpreted. In order to report this study in sufficient detail and to allow others to decipher the quality of the findings, thick description and analysis

of data was provided (Jackson, 1996; LeCompte & Schensul, 1999; Sparkes, 1998).

Citing Patton, Jackson addressed *thick description* as the importance and “obligation” of the researcher in reporting sufficiently detailed writing, enough to allow others to decide on the quality of the findings. Locke (1989) also noted the importance of *thick description*: “Description of context must be thick enough to support the reader’s consideration of whether findings will transfer. It also must be sufficiently detailed to serve as a frame for understanding the participants’ perspectives” (p. 17).

Member checking. Interview transcripts were returned to the respective interviewee allowing the participants to check transcripts for accuracy. Member checking allows for credibility of research gathered through the interview process by the interviewer (Sparkes, 1998). Dale (1996) further stated, that without this final step, the rigorousness of the study is questionable, and, “one can only hope that he or she has captured the experience as it was lived” (p. 317).

Pilot interview. To pre test the interview guide for accuracy in addressing the topic and to allow the researcher to practice appropriate qualitative interviewing methods, a *pilot interview* was executed, prior to the research interviews. The pilot interview was executed with an athlete not involved in the study who is familiar with the qualitative interview process. This allowed for further clarification and modifications to the wording of the questions. This feedback was received from the pilot interview participant (Jackson, 1996).

Thematic Analysis

Following interview transcription, I read and re-read the text for familiarity and to get a sense of each athlete's entire story (Butryn, 2003; Dale, 2000). In the first level of analysis, I placed sections with similar meanings into what Jackson (1996) titles *raw data themes*, which are quotes from each of the main questions in the interview guide.

Following this analysis, further induction was undertaken to join similar raw data themes in order to create *higher order themes* (Jackson, 1996). Higher order themes were then categorized into *general categories*. Cote' et al. (1993) emphasized the importance of the researcher not having any predetermined theme categories or patterns before data collection, allowing the important interview dimensions to emerge naturally. They further noted that "building theoretical categories and propositions" (p. 129) should be depicted only among the data collected.

Summary

Ten elite adventure racers were interviewed for this qualitative study examining risk in adventure racing. This research process began with a bracketing interview using the same interview guide used with participants. A pilot interview was then executed prior to the participant interviews. Participants were then interviewed in a private setting. Interviews were tape recorded, transcribed, and analyzed for raw data themes. Raw data themes were grouped into higher order themes and then higher order themes were grouped into general categories.

To establish rigor in this research method, a bracketing interview and a pilot interview were executed before the actual research interviews. A reflexive journal was

kept, a peer review executed, member checking took place with the transcripts, and thick description was used in the description of findings.

Chapter 4

RESULTS AND DISCUSSION

The purpose of this study was to qualitatively examine the experiences and perceptions of risk among elite adventure racing participants through interviews and thematic analysis. A secondary purpose of this study was to explore the social factors that influence how adventure racers perceive and experience risk in their sport.

This chapter presents a profile of the participants in this study. The athletes' definitions of risk are then outlined. Finally, details of the thematic analysis are discussed, addressing the relationships between the presenting themes and the existing literature on risk taking and risk taking in sport.

Participant Profile

The following is an overview of the backgrounds of the athletes involved in this study. The inclusion of this participant profile will not only add to the reader's understanding of the diversity of upbringing of the athletes, but also to the elite status of these athletes outside of, and within the sport of adventure racing. Throughout the participant profile, athletes' definitions of risk, and thematic analysis, fictitious names were used for each of the 10 athletes.

The elite adventure racers asked to participate in this study were five males and five females between the ages of 28 and 50. Five of the athletes are US born citizens, three are expatriates living in the US, and two are from New Zealand. As children, the majority of these athletes were exposed to physical risk taking through the sports or

activities in which they participated, while several of the participants grew up as athletes in low risk sports such as running or soccer.

All of the participants have a college education and have traveled abroad extensively through their racing and other activities. A large chunk of their travel involves explorations such as extended cycling, mountaineering, or trekking expeditions. Several of the athletes are currently pursuing careers as professional adventure racers. In addition to their racing and training, the majority holds either full, or part time jobs in areas such as engineering, teaching, firefighting, consulting or guiding,

The activities outside of adventure racing that have been, and/or are currently pursued by the participants, include mountain biking, skiing (Nordic and alpine), ultra running, trekking, mountaineering, triathlon, kayaking (all types), paragliding, canoeing, rafting, sailing, rock climbing, rugby, judo, diving, soccer and more. The participants all partake regularly in training that may involve various combinations of any of the above activities, or other additional activities.

Among the 10 athletes selected for this study, several of them have been on National Teams (either US or other) in various sports. One is a world record holder, one a World Cup Champion, and one an Olympic team member. In addition to being recognized for various awards and accolades within or outside the sport of adventure racing, several of these athletes have raced professionally and/or at an elite level in other sports.

Each of these athletes have, at minimum, several years experience in expedition adventure racing. Several of them have been in the sport for more than ten years.

Several of them have been on repeated winning, or top three teams, in the most prestigious expedition events in the world; Eco Challenge, Raid Gauloises, Southern Traverse, Primal Quest and others. In addition, all of them have won a variety of one day or multi day adventure racing events. The majority of these athletes are currently racing on some of the top adventure racing teams in the world as well as pursuing various extreme outdoor activities.

The following section details the thematic analysis from the interviews of the above athletes.

Thematic Analysis

This section is a detailed thematic analysis of the athletes' interviews. I first outline the athletes' definitions of risk. All general category themes will then be discussed through the higher order themes and raw data themes that lie within them.

Athletes' Definitions of Risk

Frey (1991) defined risk as an "association with an uncertain outcome in which the possibility of significant loss or gain is present" (p. 138). In my interviews, Adam, Eddie, Bob and Aidan all discussed risk as the "weighing of the outcome" of a situation. Adam mentioned risk as a "playing of odds" while Aidan stated that risk is the "statistical chance that the worst outcome will come true." Eddie saw risk as a situation when the outcome can be not only physically but also financially harmful. Bob examined the outcome of risk within the confines of racing. To Bob, winning is extremely important, and the only thing that would deter him from choosing a risky situation within an event, is if he felt he could die as a result of this choice.

Nick also views risk in reference to the outcome of a situation, but instead of focusing on what he might lose, he assessed risk from the perspective of what he can gain by taking risks.

Priest and Baillie (1987) stated that in order for an experience to be a risk or adventure, it must have an element of uncertainty, and that either the outcome should be unknown or the setting unfamiliar. Carrie and Stephanie stated that risk is when one feels out of control within a situation, or when one has no control of the outcome of a situation. Both Betty and Celeste shared that the aspects of their athletic lives that are unknown entities, are risky. Betty stated, "its the things that you don't anticipate that come up [in a race] that become risk." She also felt that to push past the edge of her known comfort zone, defined risk. Celeste felt that athletes create "boxes," or boundaries within their athletic lives and that these boundaries are self imposed from their experiences. She felt that the willingness to step out of ones own box is the willingness to risk.

Priest and Baillie (1987) also noted that the adventure experience is a function of an individual's competence within a particular risky situation. Julie agreed. She felt as though she is in a risky situation when she does not believe herself to be technically proficient at a particular sport:

I think risk is like learning to kayak for me, in a sport that I'm not very good at for example of trying to run something that's hard for me. So that felt risky for me because I don't have my roll down very well [a maneuver in which a paddler rites herself after tipping over] and I'm not comfortable in a boat and I'm still really nervous about it.

In Donnelly's (2003) work on risk and sport culture he noted that risk can be culturally defined or constructed. Thus, social risks can be essentially, political acts. For example, our society can define for us whether motorcycle helmets are safe, or whether we should be allowed to swim in the local reservoir without a lifeguard. As an expansion of this concept, Donnelly looked at risk definitions within the sporting subculture versus the confines of our social constructions. Are the definitions of risk within sport a product of risk within society, or does sport live within it's own separate life of risk and danger? Or, are the lines blurred? Dangers that would not be accepted within the confines of our towns are accepted and applauded within sport, and the athletes who participate in those risks are celebrated. If risk is socially constructed, what then is the construct within sport, and from where does it come? What then, is the construction of risk within the relatively new sport of adventure racing?

Within the above definitions of risk and the following data analysis, the participants' voices initiate a look at the answers to the above questions. Though the following data just begins to address how athletes perceive and define risk within adventure racing and within sport, the views and expressions of the athletes in this paper will help shape the risk construct within the sport, and for future research. The following section will outline themes as they have emerged from the interviews.

Raw Data Themes, Higher Order Themes, and General Categories

The *raw data themes* which emerged from the interviews, were organized into *higher order themes*. The higher order themes were then organized into five *general categories*; 1) risk socialization, 2) the space of risk, 3) mediators of risk, 4)

negotiating/coping with risk, and 5) sensations (see figure 1). In the following sections the general categories will be presented as well as relevant, subsequent themes.

Within figure 1, the number in parenthesis next to each raw data theme specifies how many athletes were represented within that theme.

Figure 1.

Raw Data Themes	Higher Order Themes	General Categories
Socialization into risk culture (10) Evolution of risk perceptions (9)	Evolution	Risk Socialization
Family influences (7) Ancestry (1)	Social Influences	
Risk and white water (8) Risk and gear (6) Risk and nature (5) Risk and animals (3) Risk and injury (3)	Corporeal	The Space of Risk
Risk and sleep deprivation (8) Risk and navigation (7) Risk and night (2) Risk in training (2)	Non-Corporeal	
Supporting team through fear (9) Team communications (6) Comparing gender within risk (6) Team dynamics (6) Comparing self to other teammates or teams (3) Trust (2) Reliance/pressure (2) Risk for individual vs team (1)	Team	Mediators of Risk
Not being in control (9) Experience and perception of risk (8) Being in control (7) The edge/limits (6) Death/dying (6) Experience and skill perception (5) Experience and confidence (4) The unknown (3)	Experience(s)	
Race organization mediates risk perception (7) Riskiest part of adventure racing (7) Fear and racing (6) Risk and winning (4) Commercialization of risk/adventure (4) Spirituality (1) Would I do this if I weren't in a race? (1)	Race/Competition	

Figure 1 cont.

Risk as the reward (7)	Attraction to Risk	
Self discovery (2)		
Feeling alive (1)		
Confidence (8)	Self Perception	
Letting your guard down (2)		
Don't see myself as a risk taker (2)		
Self punishment (1)		
I'm really a coward at heart (1)		
Comparing sport to sport within risk (6)	Social Comparison	
Comparing self to others (3)		
No ones ever done that before (2)		
Assessing risk (9)	Negotiations	Negotiating/ Coping with Risk
Negotiation of fear (6)		
The odds (3)		
Deal with it (2)		
Defy body (3)	Coping	
Got lucky (2)		
Risk regression (2)		
Emotional release (2)		
Deprogramming (1)		
Went into it with an open mind (1)		
Self talk/focus (6)	Mental Focus	
Visualization (5)		
Adrenaline (6)	Risk prompts feelings, emotions, expressions	Sensations
Acceptance (4)		
Nausea/horrifying/nervous (3)		
Numbness (3)		
Boredom prompts risk (3)		
Intuition/instinct/ (2)		
Calm/relaxing (2)		
Addiction (2)		
Invincible (1)		

Risk Socialization:

The general category of risk socialization refers to ways in which the participants were socialized within risk from childhood to the present. Two higher order themes were generated under risk socialization. These are evolution and social influences.

Evolution. The higher order theme of evolution represents the risk perceptions of the participants from youth to the present. Nine athletes discussed the evolution of their

perceptions of risk. In general they felt that their current decision making process regarding risk was quite different from when they were young. As children, they made spontaneous choices within their physical lives without thinking of the outcome. As adults they felt their choices were calculated and the potential outcomes of events are processed. Adam shared the following:

I think I perceive things differently, I think we all do as we age. We now see things we didn't see when we were kids. As a seven year old, I would run across the road without looking. I wouldn't even approach the edge of the road without looking both ways now. And that's the difference. As a kid when I was kayaking, when I was a young kayaker, I'd go down rivers I'd never seen before to see what happens. That wouldn't even cross my mind now, I mean now I think about what's around the corner, what's happening.

All of the athletes discussed how they were socialized into risk culture. For many, taking on more risk was a gradual process of choosing progressively riskier sports. Celeste outlined the progression of her life as a girl growing up in the city as a runner then triathlete, then much later, an adventure racer. She noted that that process was slow and methodical. Eddie on the other hand, was exposed to high risk sports from a very young age. He shared his perspective on how exposure to risk can be directed in one's childhood environment:

I look at a lot of people that grew up in the city and the suburbs and never had the opportunities to do the things I did. They went through high school and a lot of them didn't get into sports or anything until they were out of high school. I mean

they did high school sports but I don't think the avenue to really push themselves was there. Where you grow up in a ski resort town or something, we're building kayaks, paragliding, jumping, doing everything... skiing.

Several of the athletes, like Eddie, were socialized into risk at a young age, while others, like Celeste, were not exposed to risk as children.

Social Influences. Within the higher order theme of social influences the influences of the family, as well as ancestry, were discussed. Familial influences emerged in varying capacities from indifference, to passive support, to active support, to an aversion to support risky activities. Though all these athletes engage in high risk activities within the sport of adventure racing, the family support they garnered as youth varied dramatically.

Nick, discussed the social influence of ancestry. He emphasized the weight his ancestry has had on his life as an adventure racer, and discussed how he carries his culture into his events and training:

If you look at my ancestry, the Polynesians, it wasn't that long ago when they were out here in canoes fighting for their lives and taking voyages of survival.

And the Scottish, they have been fighting in the highlands forever.

Groves (1987) cited Ogilvie stating that risk takers may grow up in a more "experimental" world than the norm. Ogilvie felt that the type of parenting the risk taker receives is the one who emphasizes the "go for it" in their support style. Zuckerman (1994) offered a more thorough view of risk socialization and one correlating with the findings in this study. He stated that although familial influences and early exposure to

risk can be factors in perpetuating risk taking behavior in children, environmental influences, peer influences, as well as physiological predispositions, all add to the equation of whether one becomes a risk taker or sensation seeker as an adult.

The Space of Risk:

The general category of the space of risk embodies aspects of the competitive environment that involved both corporeal and non-corporeal elements.

Corporeal. Corporeal refers to literal things within the space of adventure racing such as places, objects, animals, or the body. These effects were found to contribute to perceptions of risk within the sport.

Due to predominant wilderness conditions within the sport of expedition adventure racing, participants frequently discussed risk within nature. White water was among the most prevalent aspects of the natural world mentioned. White water refers to areas of a river that produce rapids, turbulence, holes, eddys, strainers, and other dynamic features within the river. These sections can be dangerous and unpredictable. This discussion was common because of the pervasiveness of white water within adventure racing. Virtually all expedition events contain some sort of white water. The athletes are required to engage in rivers either in floating apparatus of some sort (i.e. kayaks, canoes, inflatable boats) or with their bodies while swimming. The participants' views on the dangers of white water were emphasized referencing their skill/knowledge with various boats, the water temperature, their experience level with white water conditions, or their views on the perceived risk of a particular section of a course. Eddie noted his thoughts about a dangerous river swim in the Borneo Eco Challenge:

It's like the swim in Borneo, I've swam a lot of rivers and I'm like, 'this is fucking stupid'. There's trees and it's just not smart. And who ever thought of that river swim wasn't thinking very good especially at night there's no way people should have been in there at night. Giant roots, it's not smart. I was like 'you want me to swim through that log infested thing, I'm like no way'. And I was getting caught up, I'm like, this is really dumb.

Several athletes discussed the risks involved in engaging with animals. The animals were those they were either required to ride or interact with (horses and camels) or, animals they might encounter while racing (snakes, sharks, bears and other wildlife). Bob discussed the following encounter with snakes in Borneo:

We were in there at dusk and we kept thinking about potential reptiles that were in the water. I'd hear these splashes from other trees and see huge snakes and swam quickly to the middle [of the river]. We were joking that you don't have to be the fastest, just don't be the last.

Six athletes talked about risk and gear. They referred to either gear they chose incorrectly for an event, or, gear that was placed on the course or given to them to use by a race organizer. Many of these athletes expressed a concern with placement of gear (such as fixed ropes that are placed by the race organization) over which they did not have control, as Nick stated:

I've been nervous sometimes on the ropes. Mainly because of the rigging [setting of the ropes and other protection on cliffs and mountains]. Because I'm a rigger,

and I often will talk to the rigger [race staff] and say, 'hey I've just hit some dodgy ropes'.

Three athletes discussed injury, or the possibility of injury, within risky situations. In addressing risk within an adventure race, Julie shared her fears, within a risky environment in a race, and, of a possible injury occurring:

So were all just following these footprints that went way over into the rocks and scrambled around there were a bunch of stream crossings. It was taking forever, and we're hearing these big chunks of ice breaking away and not knowing if they're a hundred miles away or a hundred yards away because you couldn't really tell. And that felt like it was pretty dangerous. If something had happened right there if someone had broken their ankle in one of the crevasses it would have been hours and hours to get to help and we were all so tired and out of it that it just really felt like we needed sleep and we had to stop but we couldn't stop.

Despite the present dangers within this event, Julie decided to continue. This placement of injury within the sport, the need to carry on in an event under extreme physical duress, and the discussion around the combination of these elements, were common threads among participants in this study.

Non-Corporeal. Non-corporeal refers to times of day, or aspects of training or racing, such as navigation and sleep deprivation, that contributed to perceptions of risk within adventure racing.

Two athletes discussed risk in their training. They stated that they took more risks while training than while in races. These two athletes as well as six others

discussed sleep deprivation as an added risk to adventure racing. It is important to note that the combination of navigation and sleep deprivation is unique to the competitive sport of adventure racing. In order to win an event, athletes must engage in both. The consensus was that if tangible risk in racing was defined as rope work, white water, animals etc., then adding sleep deprivation to the mix was exceedingly more risky than engaging in these activities while rested. Therefore, the risk lies not only within the activities themselves, but more so while engaging with one's mind deprived of needed rest. Eddie stated these thoughts:

It makes the risk a lot more real, a lot more dangerous. You know there's a huge risk there when you're sleep deprived and stumbling around and it's dark and it's a lake and you're trying to get out of there fast. You're not thinking very well and so the risk goes up. I'm amazed there aren't more injuries.

Seven of the athletes shared their thoughts on risk within the activity of navigation in adventure racing. In expedition competitions, athletes are required to navigate with a topographical map and compass through wilderness terrain via check points to the finish line. Unless specified by the race staff, participants are allowed to take any route they choose to reach their goal. The risk in navigation often shows as errors, or challenging choices in route finding that may lead athletes to dangerous areas on a course. Often these dangerous areas are not route choices laid out by the race organization. Bob discussed the inherent dangers in the combination of tricky navigation and sleep deprivation:

When you get off course, you make a mistake and you get off their [the race organizations] prescribed route. We found ourselves at night in some fairly volatile weather with a storm moving in, and the fog, where we could have literally walked off a cornice [a precarious overhanging mass of snow, ice, or rock usually on a ridge] or a rock precipice and you know, that would basically be it. And then I found myself sleepwalking on a cornice, you know, like you're driving a car and you wake up, and you realize oh my gosh, if I screwed up I could have been over there [he points down].

Within all discussion of risk whether athletes referred to navigation, sleep deprivation, or nature, the placing of the activity or situation at night always enhanced the perceived fear and risk.

Mediators of Risk:

The general category of mediators of risk highlights all potential interventions promoting reconciliation, settlement, or compromise, surrounding risk experiences or perceptions. The higher order themes for this category were; team, experience(s), race/competition, attraction to risk, and self perception.

Team. Team refers to a group in which an athlete interacts constantly and/or closely within an event or a sport. The majority of the references to team in this study were within the sport of adventure racing. Some of the comments made by participants referred to times when they were interacting as a unit in a high risk sport outside of adventure racing, such as kayaking or mountaineering.

In his research on evaluations of risk, Helms (1984) discussed his “risky shift” phenomena as being a valued form of behavior among risk taking individuals in a group setting. Risky shift is when a group verbalizes a decision concerning a risk situation, and the group’s decision tends to be riskier than what an individual would recommend privately. In addition, he stated that when an individual realizes that he or she is not riskier than the other members of a group the individual will have a tendency to adjust his or her risk taking attitude upward. Several of the athletes who discussed team dynamics within risky situations in events referenced their ability to take a risk when another teammate would lead. A typical thought pattern presented was an initial resistance to the activity, followed by watching a teammate or athlete on another team executing something risky. The resistive athlete would then follow suit. All of the references to this type of behavior in adventure racing were based on the advancement of the team in a timely manner on the course. If the risk allowed them to gain time or take a short cut, they would choose it by following another teammate’s lead. Betty stated the following about situations within white water:

Terri: What helps you get through that [fear of white water] in a race?

Betty: I rely a lot on what someone else is doing. Like if you are there [her teammates] I rely that they are in control and I try and feed into that.

One athlete expressed that sharing the risk and adventure in racing and in training with others, added an excitement and a social element to his risk choices. Risk in a team dynamic enhanced his experiences.

In discussing team communications during risky situations several styles emerged, involving anger, encouragement, discussion around strategy, indifference, and fear, as Eddie stated in the following:

For some reason we went right down into this cliff band. And we were down climbing for 20 minutes of really scary stuff. Climbing is one thing I'm real smart about ... I like to be safe around climbing. I started crying and I was a mess, I was shaking I keep telling Julie 'please get me through this I want to go home I want to quit this'. I'm like 'this is stupid, I don't want to die'. When we got through it I just told everyone I said 'don't fucking put me in that situation again because I don't' like that, we've got to think', and my reason was is that I don't want to die for one but I also don't want to be out of this stupid race because we made a stupid mistake.

Nine athletes expressed their experiences with supporting each other through fear and trust. They all agreed that support and trust from others has allowed them to either help other teammates through difficult situations or allow themselves to get through them. Frey (1991) looked at risk as whatever was defined as risk at a particular time in a particular place, by a particular group. Therefore, if an athlete, is led through a difficult situation by teammates and told that "everything will be ok," then the risk could be perceived to be manageable by the fearful athlete. Julie expressed feeling supported by her teammates by following their lead through a very cold river swimming section:

I hated it. And I was really just trying to go as fast as I can to get to the end.

And there were a couple times I was screaming for Eddie [one of her teammates]

cause he's like the white water guy. I mean I just sort of follow his lines and I really sort of, it's almost like I referred to him and Jack. Jack's like 'keep your arms moving'. I was still doing it but I was really looking for them 'where's Eddie, I want to know where he is right now', and trying to keep up with them because I didn't want any distance between us. It's like I felt almost comfort in them being there because I didn't know how I would do. They have more experience, they weren't as cold as I was and they weren't as outwardly as nervous as I was about that section. So I really kind of tried to stay close and leach off of them I guess.

Athletes also noted their decisions to take risks based on the pressure they felt from teammates. They discussed feeling relied upon to complete the task or event. Based on pressure or reliance, athletes chose risk while placing consequences in the back of their minds. Athletes also compared themselves to other teams or teammates. The comparison offered a pressure they placed on themselves that allowed them to execute risk.

Within expedition adventure racing teams are predominantly co-ed. Of the six athletes (five women and one man) in this study who discussed gender within risk, all of them defined and valued the traits of nurturance, acknowledging limits, admitting fears, and asking for help. Several of them also felt that within the ranks of the elite in this sport, there were a lot of similarities between men and women in their abilities to execute efficiently. Betty shared this thought:

You can say the kinds of macho things that guys decide would be perceived to be more risky but I don't [think] that is necessarily true. I think the elite people who are in adventure racing the males and females are more closely aligned. I think in life you have the extremes of the macho kinda guy and the girly girly. But I think the people who choose and who are successful in adventure racing are more towards the center of that line. So I think decisions and things are made more based on personality and things. I don't think it's a gender thing.

All the athletes supported having teammates (men or women) who showed the ability to both take risks, and exude supportive, nurturing traits. As a reflection of these thoughts in a study on high risk recreation, Schrader and Wann (1999) looked at gender as a potential predictor of involvement. They found that gender alone may not be the best approach in defining high or low risk individuals. They felt that assessing an individual's trait level of masculinity or femininity would provide a more informative perspective in regards to participation in high risk sports. The athletes in this study, such as Carrie, did not feel that harboring nurturing traits made one less of a risk taker, but they did feel that supportive traits allowed one to be a better teammate.

Experience(s). The higher order theme of experience(s) refers to either an athlete's experience base that allows he or she familiarity within a situation, or, a specific experience or situation.

Priest (1992) felt that there is a relationship between experience and increased risk choices. He noted that as the experience level of a participant increases, corresponding increases occur in frequency of participation, skill/expertise level, preference of risks and

internal locus of control. In addition, Priest and Baille (1987) noted that perceived risk and perceived competence, drawn from past experiences, are two factors that come into play when making risk choices. Though Adam supported this research, he later contradicts himself when expressing “sheer terror” within a white water situation.

Denying his “terror” he stated the following:

I never really feel in a physical environment, not even in a cognitive environment, I never feel out of my depth. I’ve never felt, I mean you could put me in an airplane, on a boat, under water, on a mountain, I always feel like I can cope with the situation, and that’s probably been just luck getting to the age of 37, but now I’m here, it’s not luck anymore, it’s experience. I’ve been lucky enough to have had the experiences in this life, and have learned from them.

Though the predominant perspective in this study was that greater experience provided a platform to choose greater risk, two athletes, noted that inexperience and ignorance in a particular activity allowed them to feel more comfortable executing a task. They felt their ignorance allowed them to deny potentially negative outcomes and execute without considering the consequences. Julie though, agreed with the majority:

I think the perceived risk, like for the beginner and middle of the pack teams [in adventure racing] is huge. Cause they are really out there, they’re just like ‘oh my god we are just so out here’, and that’s how I thought when I first started. And now, the perceived risk among the elite teams, they don’t perceive the risk at all, I don’t think. I mean I’m out in a race and you have a hill you have to go down and you just go.

Four athletes discussed their experiences as the driving force to their gaining confidence. If they successfully executed an activity, there was motivation and confidence to do it again, or, something even more difficult. Slanger and Rudestam (1997) echoed that there is a need for risk takers to “further the pleasure of effectiveness”, once a certain skill level is attained. Adam agreed, stating the following:

I think what happens is that you get more experienced so you feel confident and in complete control of that. So if that's possible let's try something that's not as comfortable. If I'm kayaking in a gale in big waves, I'm quite comfortable. I know this may seem a bit extreme and a bit dangerous, and it probably is for most people, so that's where the next level comes up. Well, you know, that's comfortable, let's try something that's not quite as comfortable.

In reflection of Adam's statement, Slanger and Rudestam (1997) summarized the general agreement among those in the field of sensation seeking, that while an individual is optimally stimulated, optimal functioning can occur. This would strengthen the case that high sensation seekers could gain a perception of confidence due to optimal functioning in situations in which others might feel compromised or in danger. Stephanie expressed this confidence in self while discussing her feelings prior to her first expedition adventure race:

Most of the things leading up to that moment in my life I had just had a lot of good successes in athletics and academics and I was starting to become a person who just believes that I am just successful because I have been before. Just my

successes in the past. I progressively took on harder and harder things and was able to do them.

As Priest and Baille (1987) noted, the adventure experience is a function of an individual's competence within a particular risky situation. Five athletes discussed skill perception as an important piece to choosing risk. Most of these athletes felt that they were willing to choose a risky activity if it were one in which they felt technically proficient. Julie started rock climbing when she was in college. She felt that her current advanced skill level in climbing allowed her to feel comfortable challenging herself. Within the sport of white water kayaking, a new sport to Julie, she felt differently, as she stated here:

I'm technically not very good [at kayaking]. I don't understand the equipment all that much and that feels risky to me. Where as climbing I just know it a lot better and I can make better decisions and I know how hard I can climb and I know what I can do or can't do so it feels like there is more risk in my life with new sports.

In relation to Julie's statement, Delle Fave et al. (2003) mentioned that an athlete's perceived level of challenge is related to perceived personal capabilities. In their study on climbers, they find that optimal experiences were characterized by a balance between high challenges and high skills. Julie expressed her discomfort with kayaking as it corresponds to her skill level while she repeatedly expressed her love of climbing and her advanced climbing skills. Priest (1992) agreed that along with rising levels of ability, attitudes also rise.

Stephanie shared that the edge/limits for her in choosing risk is her lack of knowledge in the mountains. While most of the athletes, like Stephanie, stated their limits within adventure racing, Nick felt as though all of the events in adventure racing were below his skill level. Though one could argue that Nick's abilities are not superior to the other athletes in this study, he stated that he never felt technically stretched in a race unless he is sleep deprived or challenged while executing navigationally, as he stated here:

I think that the races are so far below my skill level that as far as physical risk goes, you don't really feel that, other than the ones that involve sleep deprivation and extreme fatigue. It's when I'm training when I'm taking risks.

In discussing the edge/limits Nick stated that he feels competent because of having made a lot of mistakes and 'crashes' in his life. He felt as though he's explored the limits and that he has a solid sense of what's possible and what's not.

Shedding light on Nick's perspectives, Delle Fave et al. (2003) confirmed that there is a discrepancy between objective risk and its subjective perceptions. What is perceived as risk to one person can have markedly different connotations to another. This discrepancy is based on personal skills and past experiences as explained in Robinson's (1992) cognitive risk appraisal. Despite equal abilities among participants, Nick may perceive his skill level to be above the race course, because of past experiences, while others may feel challenged.

Thoughts on the virtues of the unknown arose from the athletes in this study. These unknowns were often expressed as obstacles to overcome to reach their goals, for

instance, the course in an adventure race. It is important to note that the race course in an adventure race is an element of unknown. Weeks prior to an event a race will disclose the sports in which the athletes will participate, as well as an approximation of the length of the course, in either time or distance or both. But only just prior to the race start, will the athletes will find out the location of the checkpoints on a course, the order that the events will lie (i.e., biking, kayaking, hiking, etc.), and the distance of each segment or event. Betty extended the concept of the unknown with her perception of adventure racing:

You prepare, you prepare, you prepare and you know what's going to happen and it never does. It's like solving all those unknowns and getting through it.

While Celeste shared that the element of unknown relieved the pressure her first Eco Challenge:

I felt like I had put in the time the training, I felt like I had all the skills. It was just that unknown of what it was going to be like out there but not having any pressure, other than to go out there, have fun and finish.

Several others discussed the unknowns as an attraction to sport in general as this quote stated:

The unknown was appealing to me. I was going in thinking, it's so cool to be attempting some thing completely new that I have no experience with, I don't know what's going to happen. But there was no fear in it [the unknown].

Reflecting on the unknown, Priest and Baille (1987) stated that in order for an experience to be an adventure, it must have a level of uncertainty about it and that either

the outcome should be unknown or the setting unfamiliar. Helms (1984) found that climbers will actively promote uncertainty and an element of unknown in order to maintain motivation for a climb. He further noted that the more one aspires to a given unknown, the more one is willing to accept higher levels of risk. Frey (1991) added that athletes in high risk activities seek uncertainty, or the possibility of failing. Action to them, is a situation with the anticipation of risk, and in this, an opportunity to demonstrate self. Bob shared this view of the unknown while getting psyched up for an upcoming race:

I'm looking forward to PQ [an expedition event in North America] as a sufferfest, really fast, really hard. but I'm gonna end up looking forward to that unknown and what are they giving us for a course, you know, where are they gonna take us. I've been to that area so for me it's about not waiting to dig in and find out what it's all about. Kind of like maybe opening a Christmas package.

Johnsgard (1977, 1978) in his work on race car drivers found these high risk athletes to have an affinity toward being in control in their lives. Zuckerman (1983) also suggested that for athletes risk is not an attraction, rather, risk is reduced as much as possible by the athletes through his or her development of skills, planning, and concentration to execute with the highest control possible. Additionally, Lyng (1990) has established that voluntary risk takers have an aversion to circumstances they can not control. Lyng felt that risk takers have a unique skill, which is the ability to maintain control over a situation that verges on complete chaos, situations which most people

would regard as uncontrollable. In association with Lyng's work, Adam definitively stated:

I don't think I'd do something if I didn't feel in control. And I've never felt out of control in a race. I like to think about that because I can't remember feeling out of control in a race.

Later in our conversation Adam contradicts himself by stating that there was a time in a race when he felt out of control on some dangerous terrain after making a bad navigation decision. In evidence of Adam's initial declaration of a dominate controlled self, followed by his admission of lack of control, Frey (1991) noted that an athlete stating a voice of control, may actually have a false sense of control due to the feeling of invincibility that so many athletes feel. This leads the athlete to believe they are engaging in a zero risk activity allowing them to choose participation in the first place. If Adam is the navigator and thought to be in control of navigation, then he can lead himself to believe that the route he chooses places the team in control.

Seven of the athletes in this study agreed that their perception of being in control was an important feature to choosing risk, while nine of them discussed their "stress" or "fear" or "hate" for not being in control. Despite the definitive need for control, there were blurred boundaries for several athletes when drawing these control lines within their physical lives. When Carrie started mountaineering at a young age, she had aspirations of climbing Everest. Once she was faced with several experiences that left her feeling out of control, she turned to adventure racing as a "safer" sport. Now, with successes in adventure racing and a renewed confidence in her abilities as an athlete she stated that

she felt more control in her ability to make safe decisions. She's currently thinking about going back to mountaineering.

Six athletes conferred their aversion to risk, if they felt that death was a possible outcome. The possibility of death in adventure racing was also a common deterrent to choosing risk and was often juxtaposed to the competitive aspect of the sport, specifically winning. Stephanie summarized in this statement about winning races:

Terri: The concept of winning comes into play in reference to the decision you make?

Stephanie: Yeah, that's clearly important but not dying is more important than winning.

Terri: So dying is sort of like the line you draw. But winning is...

Stephanie: Second place a distant second place, first is not dying.

While researchers have often tried to explain participation in death potential sports (Donnelly, 2003; Groves, 1987; Schrader & Wann, 1999), the athletes in this study, like Stephanie, discussed death with either an aversion or indifference. In reflecting on the feeling of control and death, Schrader and Wann postulated that one method of achieving the illusion of control over one's mortality is cheating death and that participation in high risk recreation may provide one method of cheating death, therefore gaining control. Le Breton (2000) further theorized that the legitimacy of surviving in a symbolic game with death, injury, and pain brings to light radical truths for the participants. Truths that potentially replace the lack of moral limits of present day society.

Race/Competition. The higher order theme of race/competition refers to experiences and perceptions of risk within all aspects of racing and competition.

One athlete emphasized that there were risky situations within races, which he would not choose to participate if they were not in a race or competition. Four athletes mentioned their ability to take high risks within events due to the desire to win.

Stephanie shared the importance of winning versus risk:

There's so many things you can take risks at, and to a certain extent in order to win you have to take some of those. You hope it's a calculated risk and just a caution to the wind risk, unless that's the only way you're gonna win and then go to town.

While the popular press asks the question, "why do we take risks?" (Blum, 1999; Cole, 2001; Duanne, 2000) TV commercializes risk through sport and reality TV. In pondering his view of winning and risk and commercialization, Bob stated the following:

In thinking of success and risk and whatever, I think of a new TV show *Fear Factor*, and they were eating some brains, and they were jumping across a seven foot gap from a speedboat, you know from one boat to another, you know. Would you do these kinds of things if it wasn't the money or whatever? A lot of it's just the competition, and knowing that the money isn't that big but it's also a carrot dangling out there that if I do win, I'm gonna succeed, which is ultimately all I wanted to do, then with that I look at the prize money as being the icing on the cake or a bonus.

Despite grave injuries and death occurring within adventure racing, the athletes in this study tend to believe that their experience, teammate support, or drive to win will keep them from harm's way. Donnelly (2003) noted that there is an essence of denial by athletes, in order to allow them to feel comfortable participating, with the same denial within the media in order to support pro-commercialization of sport and recreation.

In discussing the mediation of the race organization, five athletes stated that the inherent dangers in races were diminished significantly by their ability to contact race staff at any time. Bob shared the following about the race organization's mediation of the risk in adventure racing:

I think they're usually a lot less [risks] than what we encounter on a day to day basis in training in preparing for these races. We have safety measures, phones, helicopters, GPS, radios, you name it, to help get ourselves out of trouble and more people out there, usually people on the course that will come find you if you should find yourself in a situation, somebody that could probably help you. Not to say that it's entirely safe because I know differently, but I feel a lot less at risk in the race than I do preparing for a lot of it a lot of the time.

Expanding on the mediation of risk within adventure racing the athletes discussed their views of the riskiest part of the sport. Several athletes discussed the competitive nature of the sport adding risk, as stated here:

It's the nature of the event itself and the things you have to do, the second being how much do you want to take a chance on how you get through the course.

Others discussed issues such as the courses and events, sleep deprivation, injury and health risks. One athlete shared:

I think we're at a greater risk, our bodies physically and with less sleep and making quick decisions like that. I'm not feeling it during the race like 'oh my god I'm really at risk' but tangibly you think back and somebody can really get hurt here. And I don't think of it during a race just because I'm racing.

Several athletes view the risk in adventure racing as adding to the enjoyment, excitement, and fun of the sport while one stated that he would not participate if there were not some element of risk involved:

I think it makes adventure racing. If there were no risk in adventure racing, if I just had to run around hiking and say my only risk was to maybe get lost until somebody came and found me or until I found myself, I wouldn't do it.

In defining risk in adventure racing one athlete shared the differences between risk for the elite teams versus the middle of the pack teams:

I think to finish the course for the middle of the pack teams to finish a race I think there's really very little risk in the race. They're sleeping more. So they're not putting their self in that kind of sleep deprivation where you start stumbling around and making mistakes. So I think for the top level teams the risk is in those things. It's in trying to cut corners and trying to sleep less and anyway that you can save five minutes here or there it's just putting you at more risk because you're just taking more chances. If you want to win one of these races it's kinda the way it needs to be right now.

Adam who exuded confidence with regard to various questions around risk and competency with races, made the following statement, “The riskiest thing in an adventure race is riding your bike on a paved road with vehicles around”.

Several athletes discussed their fear within adventure racing. In her work on performing your best during critical times, Dalloway (1993) discussed the components of the stress response. She stated that ineffective risk takers respond to high risk with, “I’m afraid”, or, “I can’t do it,” whereas, risk takers respond with risk appraisal and internal dialogue. Celeste discussed her response to fear within an adventure race, her subsequent dialogue with a teammate, and reflection on her diagnosis of cancer. These allowed her to address her fear response and reframe.

I was in the back of the boat [kayak] and Sean was in the front and we’re going through the squall and I was terrified. I kept saying, ‘Sean, I’m so afraid, I’m so scared, I’m so scared’ and he kept saying to me in a very calm voice, ‘just keep paddling Celeste, just keep your paddle in the water, as long as you got your paddle in the water it will be ok.’. And I remember thinking about that when I was diagnosed with the cancer and it was like, fuck, what am I going to do, and it was like, you know what, I’m just going to keep paddling.

In discussing fear within a race, Adam contradicted himself. Initially he stated his immense concern for the safety of his teammate, using the words “wary,” “intimidation,” and “unknown,” “no way to get back up the waterfall,” while in the next breath he stated that he never felt in danger. Boga (1988) found that high risk athletes are not fearless,

but that they have learned how to handle fear. He stated that fear is seen as acceptable and potentially useful in keeping athletes safe.

Nick also stated the significance of his culture in aiding him in dangerous situations and contributing to a win at Eco Challenge, Fiji:

Nick: I think probably in a sense of protection yeah [his ancestors helped].

Especially coming from my island background. We are strong believers in spirit guides and that your ancestors being there. And my dad said coming to Fiji for this race that I'll have a strong race here because these are our lands and they will be looking after me here.

Terri: Did you feel that when you're racing?

Nick: Absolutely. Especially down on the coast. I feel it strongly.

Nick additionally emphasized his spirituality giving him a greater sense of self while executing within events and nature.

Attraction to Risk. Attraction to risk was presented as a mediator to risky activities. The attraction became an arbitrator or interference that allowed the participants to choose risk and potentially enjoy it.

When discussing risk and adventure Adam shared, "it's partly about self discovery". Several other athletes discussed risk and adventure racing from a perspective of self discovery, personal rewards and accomplishments. Eddie reiterated his perspective on risk and rewards, one that is shared by several other participants.

Eddie: Yeah, the more dangerous the risk, the more challenging the risk the more I want it.

Terri: Why is that?

Eddie: [pause]. I don't know. I don't know. I think the rewards are bigger.

Terri: What are the rewards?

Eddie: Define that risk, accomplishing that task. And avoiding the risk. Cause it's huge. That's the reward for me. And I have taken a lot of risk where I didn't avoid the risk. I've spent a lot of time in the hospital. I've definitely paid my dues on the risk taking. Yet I still do it. And there's something there that, something in me there that, I think that's why I really like adrenaline type sports and all that cause I can push myself. The harder it is for me the smarter I am in doing those tasks. The easier things are I let my guard down I don't focus on them that much and that's generally get hurt the most...definitely more focused the harder things are the more I want to do them. The more learning involved the more work that goes into accomplishing the risk, the more rewarding it is for me. It's like in kayaking, 'oh I gotta get really good at this so I can go do this'.

In looking at the psychology of excitement, Apter (1992) interviewed several climbers. One famous British mountaineer, Chris Bonington, paralleled Eddie's thoughts in Bonnington's following statement, "The excitement of climbing is going into a danger situation and then using your skill to obviate danger" (p. 34). One potential explanation for Eddie's comments lies in Priest and Baille's (1987) belief that people are motivated to undertake adventures because their lives are rationalized, controlled, packaged and extrinsically rewarding. Additionally, Le Breton (2000) stated that being right on "the end" of a self imposed task gives legitimacy to life providing a "symbolic plank" on

which risk takers can rely. As an extension of Le Breton's views, Nick mentioned the extreme lengths he'll go to in order to "not be the person who sits in front of a television". He stated that what makes him feel alive is high risk sports and adventure racing, high risk sports being his "symbolic plank". Extreme alpinist and writer, Mark Twight (2001) reflected Nick's thoughts, "Despite my age, I'm still raving, kicking against mediocrity...put up or shut up" (p. 11).

Though the majority of the athletes in this study shared in the view of risk as a reward, those like Stephanie and Celeste admitted that the high risk sports within adventure racing such as high altitude climbing and white water, are not comfortable places for them, and therefore, not their choice of leisure activities outside of racing. Though Stephanie is one of the most experienced adventure racers interviewed for this study, she strongly opposed her participation in several high risk sports:

I have no interest in white water kayaking, I have no interest in high mountaineering. I have no interest in being the first ascent of this or that. I jumped out of a plane once and was like, 'done that', no interest in doing it again. I just don't like going really really fast on my snow board. I do nice big controlled sweeping movements, and people are like, 'man you must be out doing all this BASE jumping' and all this shit, and I couldn't be less interested.

Aidan added that risk as the reward is part of the attraction to the sport of adventure racing. He noted:

There must be something really positive about the risk that allows us to go through all we go through in adventure racing and come out all happy and alive.

Duanne (2000) in his book on the history of climbing El Capitan in Yosemite Valley, presented the life of climber Scott Burk who was obsessed with freeing the Nose (a famous climbing route) on El Capitan (freeing is climbing with protection but without aid). In discussing his attraction to this particular climb, Burk stated passionately that the risk involved and gravity of the undertaking gave him such an immeasurable sense of value that there must be some virtue in the task. Duanne also quoted Oates to emphasize the attraction to risk and the concept of one choosing risk for the sake of living life to it's fullest, "One then might be a person for whom the contest is not mere self destructive play but life itself; and the world, not in spectacular and irrevocable decline, but new, fresh, vital, terrifying and exhilarating by turns, a place of wonders" (p. 1).

Self Perception. In this higher order theme participants discussed various perceptions of self or views of self, which offered mediations of risk perspectives.

Confidence presented as a dominant theme in Slinger and Rudestam's (1997) study on elite rock climbers, skiers, kayakers and pilots. In parallel, seven athletes in this study exposed their levels of confidence within sport. Some talked of the confidence they embodied while taking their current abilities into the sport of adventure racing. These athletes stated that this confidence might drive their decisions to take risks in adventure racing. All agreed that feeling confidence from past successes has fed their ability to feel relatively comfortable with risk in races, as Celeste stated in the following:

My experiences have given me the confidence. As you gain more confidence you're more willing to put yourself out. And you don't consider the things that

prior might have been a risk to you. It becomes more of the norm. It's just confidence. It's maturity.

One athlete climbs mountains in the winter months, an activity that other researchers have found to be high risk (Brevik, 1996; Ewert, 1985). Yet he still considered himself a coward at heart. Two athletes felt that although they chose to participate in high risk sports such as mountaineering and white water kayaking, they did not see themselves as risk takers. Julie, an experienced rock climber, regularly involved in solo, big wall climbing (a multi-pitch, sometimes several day route on a rock wall) noted the following:

There were anchors to rappel down the route...so it was a nice safety net for me. Maybe I wouldn't have done the route if there weren't that kind of an out. Cause I don't think of myself as this huge risk taker. I wouldn't just get on something without any information or any way to get off or it's just not me. I'm not in climbing to sort of risk my life and feel like I'm going to die.

Cheron and Ritchie (1982), have found that the more familiar an athlete is with a particular activity, the less his or her level of perceived risk within that activity.

One athlete noted that physical risk engagement used to be a form of self punishment for past behaviors for which he felt ashamed. In quoting Burk, Duanne (2000) in his work with rock climbers, referenced Burk's obsession and self acknowledged punishment toward accomplishing his ultimate goal of free climbing El Capitan, "I realized that I was actually trying to kill myself, but a part of me wouldn't let me do it. Self-preservation kicked in". Duanne contended that there is a self knowledge

at the center of this, that perhaps the struggle is what felt good to some, not necessarily the achievement.

Social Comparison. Participants socially compared themselves to other athletes and compared different sports through their perceptions of risk. These comparisons became the intervention to the risk perspective. Social comparison showed as a mediator in allowing them to reconcile their risk taking choices.

Three athletes compared themselves to others, by placing themselves at a point on a continuum of risk takers within a given sport. Some examples included, “I am more conservative than most climbers”, or, “If he can’t paddle that rapid, then I can’t as well”.

Athletes also compared themselves as risk takers to those who were not, as Nick did in the following:

[I take risks] partly because I’m fighting to be the furthest away from the person who sits in front of the television. So I’ll go to extreme lengths to not be that person.

Six athletes compared various sports within the context of risk, noting injury potentials. While others acknowledged that they avoided certain high risk sports because they felt their skill level could not ensure their safety. Carrie explained why she moved from mountaineering to adventure racing:

So I’ve really shied away from it [mountaineering] in fact I’ve turned to adventure racing as a safer option for getting into the outdoors still being on snow still having a climbing event, but not feeling like I’m putting myself at risk in life. I have turned to adventure racing as opposed to mountaineering. I don’t do hardly

any mountaineering now. And I've turned to adventure racing because I feel it's so much safer than mountaineering.

Ellison was cited by Knecht (2001) when he spoke about the Hobart sailing race that runs between Sydney, Australia and Tasmania. Ellison discussed an aspect of social comparison and competition within the sport of sailing:

There are two aspects of speed, one is the absolute notion of speed. Then there's the relative notion – trying to go faster than the next guy. I think it's the latter that is much more interesting. It's an expression of our primal being. Ever since we were living in villages as hunter-gatherers great rewards went to people who were stronger, faster. (p. 5)

In exuding this “expression” of being better than others, two athletes projected pride in their having done things that no one had ever done before. After initially stating that he valued unique “first time” endeavors, Aidan noted several times that he only made decisions to engage in risky activities because someone had executed them prior. If a person had successfully completed an activity that he was contemplating, he felt he had a high chance of choosing the activity. For Aidan, being the “only one” was not enough to warrant certain inherent risks.

Reflecting on social comparison, Donnelly (2003) discussed the relationship between social views of risk and the internal negotiation that athletes must engage when making choices to choose risky activities. He stated that an athlete may choose to suppress any sense of vulnerability in order to participate in an activity that no one has done. The reward, therefore, is the favorable social comparison to other athletes. The

same athlete may need to decide how he will react to seeing others get injured or dying as a result of similar risky activities. Donnelly felt that athletes might be denying the dangers in order to choose risk to gain a favorable social view. The athletes in this study used social comparison to not only believe that they were physically safe within their own perception of risk but to intensify their feeling of success within risk.

Negotiating/Coping with Risk:

There are three higher order themes within the general category of negotiating/coping with risk; negotiations, coping, and mental focus.

Negotiations. Negotiations refers to internal or external discussion, consultation, talk, or parley, within the athlete's relationships with risk.

In Bernstein's (1996) historical view of risk he developed the idea that the mastery of risk is what defines a boundary between modern times and the past. He stated that historical individuals had the ability to understand risk, measure it, weight it and it's consequences – by looking at the odds. In this study, participants found a means to negotiate the odds of the outcome of a physical task, in order to execute and potentially win in adventure racing. The athletes in this study negotiated risk from several standpoints from assessing risk, addressing the odds of an activity, or by simply telling themselves to deal with the situation at hand and execute. Adam used Bernstein's concept of measuring risk to assess the odds of risk in adventure racing:

The way I see an adventure race in terms of potential outcomes is that say you're doing a 7 day race with 4 people, that's 28 days of people racing at say 20 hours a day. That's 156 hours of, whatever it turns out to be. That's a large number of

hours of doing some fairly fast things, with moving objects and solid objects around and there's gravity involved, at large large heights. And then all those hours of doing things in really uncontrolled environments, lots of possibility that something's gonna happen. And does. So that's the risk. Everyone knows that going in. I think most people probably don't think of it in those terms, but I do. I know going into a race that the number of hours spent doing it, there is a very high probability something's going to happen. In fact, it almost has to at some point.

And Aidan justified risk by assessing his views of mountaineering versus sitting at home.

Let's say on McKinley [the highest mountain in North America]. You can have the storm of the century come through and it's like 'that's unfortunate' [laughter]. If really the storm of the century came through, yeah, you'd be in trouble. If I'm sitting in home here in Fremont and the storm of the century comes through I'm probably still in trouble, the roof will blow off and the tree will fall down. And if I drive to work, if I'm really unfortunate and someone from the other lane falls asleep and hits me head on, it happens every day in the paper, it could happen to me. So there's some underlying level of absolute terrible event that is always a tiny chance, you could work in a high rise and someone could run a plane into it. So there is always an underlying risk. What I don't want to do is I don't want to live my life with a one in a thousand chance of a catastrophic event in my daily life and then go out and climb a mountain or do an adventure race and raise that to

a one in ten chance of a catastrophic event. Which is what I suspect some people do put up with. But when I go do those other things, I like to try and keep the catastrophic events down to the same kind of level I believe I'm facing at home. Though Aidan felt quite comfortable expressing the odds, Frey (1991) could argue that Aidan may be falsely rationalizing his views of risk in order to be able to choose risk in the mountains.

Despite the athletes' decrees of confidence and control stated previously in this paper, the topic of fear seemed to go hand in hand with the topic of risk for almost all the participants. One athlete noted the importance of distraction as a means for negotiating fear. Another discussed the virtue in facing her fears in order to execute new experiences, while several others used the negotiation of fear to assess risk and allow them to either back out of a situation, or execute. Adam shared a negotiation of fear:

Terri: Do you remember any kind of thought process? You felt fear, and you didn't feel like you were in control as you mentioned, but was there anything else that was going through your mind at the time?

Adam: Yeah, I wondered what...my main thought was get off there. Other than that, I wonder what it felt like to fall. I wondered what it was like to fall. I always thought of jumping off the cliff just to see what it would feel like?

Standing on top of it, it would just be so cool to jump off, just to have that feeling.

In line with the athletes in this paper, Stranger (1999), presented a continuum of danger, experience, pain, pleasure, desire and fear in choosing and executing risk. In addition, it can be argued that the media has sensationalized adventure racing in creating

an aesthetic within risk. Stranger felt this sensationalization is represented in surfing. He also felt that this aesthetic perception may pressure the athlete to overcome fear and execute, as stated here, “if the wave is perfect you’ll go out no matter how big it is.” A couple of athletes agreed with this surfer’s sentiment within their risk taking lives in adventure racing. The aesthetic of risk for these participants was to win the race.

Coping. Athletes discussed various means of coping with risk. Coping in this context refers to perceptions that allow the athlete to manage their risk choices.

One athlete emphasized the need to deprogram herself from past fears, in order to cope with current risky situations and execute, while another felt that going into an event with an open mind helped her cope with difficult situations. Two female athletes stated that their release of emotion in the form of crying, allowed them to cope with the pressure surrounding risk in adventure racing. Stephanie stated the following:

When I make it through big shit or something really hairy or just so intense, I always cry. It’s not that I’m sad or that I’m happy, it’s just that it’s over and it’s such a build up of tenseness and emotion and that’s the only way I’ve found, it’s like a quick dump of all that extra energy and fear.

Two athletes disclosed that luck allowed them to cope with the danger of a situation, as stated here by Carrie:

I’ve definitely stopped doing ice climbing in mountaineering. Because of that big climb that I told you about, because of my falls, because I just don’t want to die. I’ve perceived in a lot of situations that I was in we had it pretty lucky, we got

away pretty lucky. Some other climbs I can think of as well we got away pretty lucky.

Three athletes discussed the ability to defy their body in order to pursue physical tasks, like training and racing. There seemed to be a blurred line drawn between accepting the knowledge that injury was possible and ignoring injury potential in order to execute. Albert (1999) in his research on cyclists supported this finding. He noted that although cyclists know that the sport is objectively dangerous, they construe injury risk as a salient feature of participation. In that, they commonly engage in conversation to normalize injury occurrences to potentially diffuse it as a deterrent to continued participation. The athletes in this study used this type of talk to justify their risk choices. Discussing injury as if it were a standard part of sport.

We had a pretty good downhill that goes from the top of snow summit down to the bottom. My friends of mine and I were riding down it. And I must have crashed three times going down that. Over the bars. My back was bloody. But instead of stopping we could take the chair lift up so I did that run like, 10 times one day. Instead of backing off, it was 'I can do this right'. I don't know how to describe exactly what that is. It's just a feeling of not wanting to stop until you did it right.

Two athletes coped with fear and risk through an act of risk regression. They both discussed their cessation of participation in an activity in which they knew someone who had died or almost died. Carrie talked about her decision to stop mountaineering due to a couple "close calls" in the mountains. Eddie talked about seeing friends die not

only in kayaking but also in paragliding, and his decision to stop activity in both sports. Since the time of these interviews both athletes have once again begun participation in these sports, which they previously mentioned, they had “given up”.

Mental Focus. Within the higher order theme of mental focus, mental strategies such as visualization and self talk were discussed.

Dalloway (1993) discussed mental strategies for risk taking ability. She remarked that athletes could train themselves to change their reactions to each component of the stress response duplicating the response of a proven effective risk taker. One of the strategies mentioned is visualization.

In using visualization to execute a risky situation, two athletes discussed their view of ‘the end’, visualizing themselves getting to the end of a section, or the race. Stephanie stressed that the end would not come to her, that she must therefore visualize the end to get to the end. Several other athletes discussed their use of visualization in specific sport situations. Eddie saw his brain as a camera and used this skill as a form of visualization:

I mean I can tell you, I could pretty much draw you rock for rock every rapid that I’ve been through. It’s in there. It’s stored in there and if somebody asks me about it I can tell them exactly where the line is. I don’t know why that is. Like directions, like with navigating and stuff, I remember every course I’ve done adventure racing course. Everything. Every back country run I’ve done I can tell you ‘remember that tree, remember that rock’ it’s weird but it’s there. So I look at rapids like, I mean right now I’m sitting here picturing a high drop and I can

tell you every move every paddle stroke where you need to be, how hard the current is here, what it's gonna do to you there. If you can see yourself going through there you'll do it, it'll happen.

Six athletes use self talk as a means to execute risk in statements such as; 'just relax', 'you can do this, keep your head together', 'I'm a better climber than this', 'you've run harder, this one's not bad you can do it', and, 'god damn, pay attention'. All of these athletes suggest self talk as a means to negotiate and cope with risk and fear. They find themselves falling back on its use regularly in their physical lives.

Sensations:

The one higher order theme within the general category of sensations is risk prompts feelings/emotions/expressions.

Risk prompts feelings/emotions/expressions. This higher order theme represents the athlete's feelings, emotions or expressions prompted by risk or thoughts of risky activities. These sensations were instrumental in guiding perceptions of risk within an activity.

Stranger (1999) remarked that accounts of nature and the thrill in risk taking activities often evoke ecstatic feelings, oneness with the environment, loss of self and intense awareness. He also observed that risk is generally not a means to a transcendent experience such as flow, but that it can be an effective catalyst for reaching transcendent states such as those shared by the athletes in this study. Several participants noted a sense of calm or relaxation just prior to going into a risky situation or as a result of high risk, as Eddie stated here:

I think I use a lot of things I do really obsessively, meaning kayaking, whatever. I use kind of a mind relaxation. Like I'll go up and ski really hard today probably this afternoon and fill myself up with big jumps and come home totally relaxed. It's the biggest way to relax.

Several athletes conferred their relationship with adrenaline and risk as stated here:

I had so much adrenaline, it was kind of a high low thing, like oh god this is good and then, I'm gonna die if I don't get out.

LeBreton (2000) shared that the quest for adrenaline or the exposure of self to an extreme situation, identified by fear and excitement, are circumstances sought by individuals with the design to heighten the pleasure in life with emotions. He felt that this is a reflection of someone who seeks to balance to the outside world while adjusting to internal psychological conditions. LeBreton viewed this as a "voluptuous panic". Adam shared this view:

It's adrenaline, it's a lot of adrenaline being squirted into your system. Because you're always thinking about what's coming up, which is a nice feeling but when there's nowhere for it to go it gets bottled up, there's no outlet for it.

Counter to these self proclaimed affirmative feelings, several athletes shared their feelings of nausea, nervousness or a feeling of being horrified that they were about to embark on something high risk. Nick compared his feelings to those who experienced danger in war situations:

The first thing I feel [going into big white water in his kayak] is quite nauseated and quite sick And when I'm putting my spray skirt on and I look around at my mates, and it's kinda like, I'm not sure, but it must be the same feeling people feel when they are just about to abseil from a helicopter into a war zone.

These high and low sensations are commonly juxtaposed to create multi faceted sensations within a moment of time, as confirmed by Eddie:

Oh man it's horrifying actually. You feel like you can't do anything. You feel like you've never paddled before in your life and your first two paddle strokes once you start into it are horrible and you're sloppy. Just scared, just adrenaline. Just totally, your heart is in your throat, it's about ready to come out. It's just pretty wild. I used to just close my eyes and take a couple of deep breaths and then just go. And just kind of deal with whatever happened...So it felt really good once it was over really fast, but once you got into it and it started happening and everything was going right, it was totally relaxed.

Several athletes discussed the feeling of being numb when stimulus was too great or their discomfort too great within an event or situation. These athletes transcended sensation to execute risk and stress with a lack of feeling. Julie shared the following:

Numbness. It was almost like I turned my brain off there. I knew we had to do it. It was almost like I was trying to convince myself that it wasn't happening in a way and get it over as quickly as possible and just be done with it because we have to do it.

One of the subscales within Zuckerman's (1994) Sensation Seeking Scale V (SSS-V) is boredom susceptibility. Researchers using Zuckerman's SSS-V have noted that high sensation seekers tend to score high on the subscale of boredom susceptibility (Breivik, 1996; Levenson, 1990; Robinson, 1985; Rossi & Cereatti, 1993; Rudestam & Slinger, 1997; Straub, 1982). Three athletes within this study expressed the need to expand their physical lives within risk for the sake of feeling bored. One athlete decided that he would paddle a Class V rapid in his kayak without a paddle simply because he was bored using his paddle. Another contributed the following:

Boredom. I get bored with the sport. If you do, if you accomplish something to wherever you feel confident, I just want to move on and do something else more challenging.

Two athletes discussed the feelings of intuition and instinct that allow them to make choices. While one shared the need to sometimes place "faith" in the situation, to render successful. Two of the athletes stated that sometimes their draw to risk was similar to the draw of an addiction. It was something they needed in their lives to feel whole. While one athlete talked about the feeling of being invincible within risky activities he felt familiar with.

Summary

Through a qualitative examination of athletes' perceptions and experiences of risk within adventure racing, five general categories of themes arose. Each general category drew higher order themes with corresponding raw data themes. The presentation of this data drew parallels to the research while offering an extension of the current research on

risk taking and sensation seeking, and contributing vital information about the sport of adventure racing.

Chapter 5

CONCLUSIONS

The purpose of this study was to qualitatively examine the experiences and perceptions of risk among elite athletes who participate in the sport of adventure racing. A secondary purpose of this study was to explore the social factors that influence how adventure racers perceive and experience risk in their sport. From the interviews five general categories of themes emerged. These included risk socialization, the space of risk, mediators of risk, negotiating/coping with risk, and sensations. Many of the athletes discussed perceptions of risk and risk taking behavior that coincided with previous research. Some of these included self perception of confidence used as a mediator to executing risk, the need for perceived control, embracing the unknown, death as a mediator to risk, the view of risk as the reward, and the common use of visualization and self talk in risk taking activities.

It is important to highlight the participant's risk perceptions from youth, current risk perceptions, and how those current risk perceptions played into adventure racing. While some of the athletes were socialized into risk at childhood, others were raised engaging in lower risk sports. The athletes with the youth risk taking exposure were the individuals who currently engage in the highest risk sports (i.e., white water kayaking, paragliding, extreme skiing, mountaineering, rock climbing), outside the sport of adventure racing. Though all athletes interviewed for this study successfully engage in the risky aspects of adventure racing, such as white water and mountaineering, those who

were socialized into risk at a young age tended to express more comfort with the risk in adventure races.

Unique to this study were the athletes' perceptions of risk while competing in the sport of adventure racing. Most of the athletes discussed sleep deprivation as a prominent high risk aspect of adventure racing. Specifically, the inability to execute safely and make efficient decisions due to lack of sleep, increased the danger within a race. All the athletes were willing to accept this race specific risk in order to win or succeed. Engaging in risk within adventure racing in order to win an event, took precedence over everything else except the possibility of dying. Athletes performed by whatever means necessary, including supporting of each other, in order to win or complete an event. Another priority was following other teammates or teams into potentially unsafe situations in order to gain an advantage. Not one athlete mentioned backing down from a risky situation in a race. They were either supported by teammates through their fears, or pressured into executing. The desire to take risks within a race was viewed as necessary to the success of the team.

Two other risk perceptions unique to this study were navigation, and the ways in which the race organization mediated risk for the athletes in an adventure race. Within an expedition race athletes often have many route options. There is generally a desired course laid out by the race organization, but errors in navigation, or route choices that are considered "short cuts" will often lead teams into dangerous terrain. Because of this, and the compounding of navigational challenges due to sleep deprivation, most of the athletes perceived navigation to be a potentially risky aspect of the sport.

Despite all of the above stated perceived risks within adventure races, the majority of the athletes felt that the race organization, armed with staff, radios, GPS (global positioning systems) and wilderness medical teams, diminished the risk within racing. Because the athletes have the option of communicating with the race organization at any time (despite the fact that they will be disqualified if they open and use their radio), there was a strong feeling of safety within events, much stronger than what they felt when they were training.

In Chapter 4, I posed questions referencing the social construction of risk, specifically, “What is the construction of risk within the relatively new sport of adventure racing.” Given the risk perspectives unique to the sport of adventure racing, it is accurate to say that the structure of the events, in embodying navigation and sleep deprivation, the race production’s mediation of risk, and the insertion of strategy and speed in order to be successful, all mold the risk construct within the sport. To win or complete an event the athletes must overcome fears, deal with team dynamics, adapt to changing environments and physical stress while moving quickly and sleeping little. The athletes either accept this construct of risk within the subculture of adventure racing, or they choose to not participate.

The participants shared that the risk for slower teams is much less than that of winning teams. The slower teams may choose to sleep more and thus reduce the risks inherent in sleep deprivation. Elite teams must choose sleep deprivation, high speeds for longer periods of time, and potentially risky navigation choices in order to gain time

advantages. With gained experience, elite athletes may feel comfortable with those choices.

The nature and structure of the events themselves have created the social construct for risk within adventure racing. The athletes either work within this established construct in order to win, or they go slower, sleep more and lessen their risk opportunities. That said, it is important to note that despite the perception that there is less risk for slower teams, the perception of risk by the individuals on either elite or non elite teams is based on their own experience base within the sport. A non elite athlete may perceive a high level of risk within the sport despite their moving slower and taking less chances. The sport can construct the risk within each event in the way the race promoter lays out the course. The individuals will then interpret risk perceptions based on their own experiences and self perceptions.

Recommendations for Further Study

Recommendations can be made for further study of risk perceptions based on the procedures in this study. The majority of the interviews in this study were done in person. Several of the interviews were very difficult to hear on tape due to poor interview location or a poor microphone. It is important to select an interview location without significant background noise, echo, or interruption from other people.

Three of the interviews were done on the telephone with a device which attaches to the phone and tape recorder, recording the phone interview. This inexpensive device can be purchased at an electronic store. Though this is a viable means of gaining a higher quantity of interviews with minimal cost incurred for travel and time spent, the phone

interviews for this study did not produce the depth that personal interviews offered. In person, the athletes seemed to focus less on their time constraints and were potentially more fully engaged.

To save time, I hired a professional to transcribe two of my interviews. This is a very expensive process costing \$300.00 for two interviews. Because the transcriber did not understand the accent of one of the participants, and because he did not understand language specific to the sport of adventure racing, I found the transcripts to be inaccurate. I had to review each interview to correct errors and insert language that was initially misinterpreted by the hired transcriber. Though the transcription process is extremely time consuming (up to 7 hours of transcribing for a 2.5 hour interview), I would not recommend hiring a transcriber to do this job. As the researcher, transcribing is an important and intimate first look at your data.

Because my qualifications as an adventure racer deem me eligible to be one of my participants, it was important for me to reflect continually on my bias. I often needed to remind myself to probe a question or comment, when I may have felt that I had an idea of what the participant was going to say next. I also needed to be cognizant of not making assumptions around what the athlete was saying, and to probe further. I found myself excelling at these issues after the first two interviews. Therefore, in order to refine this process, I feel it would have been helpful to do several pilot interviews prior to my participant interviews.

Though it can be argued that my bias could have changed the texture of the data, I received comments from participants referencing the contrary. The popular press

commonly and frequently interview elite athletes. The hope is that the athlete authentically presents himself or herself to the press. Through my experiences of being interviewed and through comments from the participants, I found that there was a consensus among athletes surrounding popular press interviews; that the interviewer is not fully aware of the athlete's position or experience base. This may prevent athletes from fully disclosing interesting or vital information. It was stated in various ways from the participants in this study that they enjoyed and felt comfortable with discussing the in depth nuances of risk and racing because they were talking to a peer. There was an added comfort and subsequent passionate disclosure from their knowing that I spoke their language and was a member of their unspoken fraternity. These elements presented many times within each participant interview. In this, I felt as though the interviews embodied a richness and depth that would otherwise not have been present, had I been an "outsider". My position within the sport of adventure racing, therefore, became a potential virtue to the data collected.

Within the confines of a master's thesis, it may have been important to narrow the topic of this research further. Because I looked at risk from childhood to the present and within various sports as well as the sport of adventure racing, I found the transcripts to contain an enormous amount of information, and were challenging to restrain in a timely manner and within the structure of a master's thesis.

Areas for Future Research

Though a significant amount of research has examined risk quantitatively (Breivik, 1996; Johnsgard & Ogilvie, 1975; Levenson, 1990; Robinson, 1985; Rossi &

Cereatti, 1993; Slinger & Rudestam, 1997; Straub, 1982), no purely qualitative studies have examined risk in sport or in adventure racing. This study offered insight into risk perceptions and experiences through the voices of 10 of the top adventure racers in the world.

Additional research should be done addressing gender and risk in adventure racing, and risk perceptions for non-elite participants. Risk and navigation, risk and sleep deprivation, and risk and the team dynamic are all viable areas to explore. Research on the concept of risk and winning could also add viable insight into the drive of competitive athletes. Researchers should also address risk in adventure racing with athletes who compete in events shorter than several days in duration, and events that do not include sleep deprivation.

Implications

The results of this study cannot be generalized to all elite adventure racers, but other adventure racers and non adventure racers could potentially benefit from studying the means with which the athletes in this study mediated, negotiated, and coped with the stress surrounding risky situations.

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Appendix A: Consent Form for Interviews

San José State
UNIVERSITY

**College of Applied
Sciences and Arts
Department of Human
Performance**

One Washington Square
San Jose, CA 95132-0004
Voice: 408-924-3010
Fax: 408-924-3044

Agreement to Participate in Research

Responsible Investigator: Terri Schneider
Title of Protocol: Risk Taking in Adventure Racing

I have been asked to participate in a research study investigating risk taking in adventure racing.

I will be asked to participate in a tape-recorded interview at a location of my choice. The interview will last 2-4 hours.

There are no risks anticipated with this study and no compensation for my participation.

I will have an opportunity to talk about risk in my life. This may or may not be of benefit to me.

The results of the study may be published but no information that could identify me will be included.

Questions about this research may be addressed to Terri Schneider at (831)662-3993 or David Furst, Ph.D., thesis advisor at (408)924-3039. Complaints about the research may be presented to Greg Payne, Ph.D., Human Performance Chairperson, at (408)924-3010. Questions about research, subjects' rights, or research-related injury may be presented to Nabil Ibrahim, Ph.D., Associate Vice President for Graduate Studies and Research, at (408)924-2480.

Consent to participate in this study is given voluntarily. I may refuse to participate in the study or in any part of the study. If I decide to participate in the study, I am free to withdraw at any time without prejudice to my relations with San Jose State University. No service of any kind, to which I am otherwise entitled, will be lost or jeopardized if I choose to "not participate" in the study.

I will receive a signed and dated copy of this consent form.

- Your signature on this document indicates agreement to participate in this study.
- The signature of the researcher on this document indicates agreement to include the above named subject in the research and verifies that the subject has been fully informed of his or her rights.

Signature

Date

Investigator's Signature

Date

The California State University:
San Bernardino
Bakersfield
Calicut
Chico State
Concordia
Fresno
Fullerton
Hayward
Long Beach
Los Angeles
Marquette
Northridge
Pomona
San Bernardino
San Diego
San Francisco
San Jose
San Marcos
Santa Barbara
Stanford

Appendix B: Interview Guide

1) I'm interested in learning about your experiences as a child. Specifically, could you tell me about:

- a. where you grew up
- b. your family
- c. your friends and neighbors
- d. your school
- e. what kinds of things did you do as a kid?

2) Tell me about your background/experience in sport.

- a. roll of your family in your sporting activities
- b. who supported you in your sport participation
- c. sports played
- d. why did you participate/what attracted you to sport?

MTM: TAKE NOTES ON RISKY EXPERIENCES TO REFER BACK TO...

3) How does it feel to you to go into a new challenge/race/goal?

“Let's switch gears a bit...”

4) Tell me about a time in high school you felt you did something risky.

- a. what was that like?
- b. Did you see it as a risk at the time?

Probe to a time as an adult...

- a. what was that like?
- b. Did you see it as a risk at the time?

5) How do you know when you're encountering risk?

- a. what does that feel like

6) How would you define risk?

7) What are your perceptions of risk in sport?

8) What role does risk play in adventure racing?

- a. Tell me about a time in a race when you thought “wow this is risky..”
- b. how did you cope with that experience?

9) Has your perception of risk changed or evolved over the years as an athlete/adventure racer? In your life in general?

10) I'd like to ask you a question in reference to how you make decisions in adventure racing.

- a. Has there been a time when you had to deal with risk as a team?
- b. How was it executed and what role did you play?
- c. How do/did your teammates affect your perceptions/experience of risk

11) What are some of your hobbies outside of adventure racing specific activities?

12) Tell me three of your future athletic goals and/or highlight other/new sports or activities in which you wish to participate in the future.

Wrap up Interview Questions

- 1) Has the conversation we've just had been revealing to you in any way?
- 2) Could you comment on anything you liked or disliked about the interview?
- 3) Do you have any suggested improvements for talking about this topic?