WILDERNESS ACCIDENTS AS COMPLEX LIFE EVENTS IN COGNITIVE, SOCIAL, AND RECREATIONAL LIFE DOMAINS: APPLICATION OF A STRESS-COPING MODEL

A Dissertation

by

KELLI KRISTINE MCMAHAN

Submitted to the Office of Graduate and Professional Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Chair of Committee,	David Scott
Committee Members,	Gary Ellis
	Jane Sell
	Scott Shafer
	Tony Talbert
Head of Department,	Gary Ellis

August 2015

Major Subject: Recreation, Park, and Tourism Sciences

ABSTRACT

A wilderness accident can be an unfortunate outcome for outdoor recreationists participating in risk-related recreation or outdoor adventure pursuits. Some pursuits in certain environments or conditions increase the likelihood of accidents, but no individual—regardless of experience level—is immune to the possibility of an accident given inherent risks. *Accident* encompasses environmental and/or human factors that may be at play in the cause. Narratives from outdoor recreationists indicate a certain degree of emotional or psychological burden that results from both risk and the aftermath of accidents when they occur. Most scholarly inquiry aimed at understanding the impacts of risks and accidents has been directed toward recreationists participating at intense and extreme levels. Devotee hobbyists have indicated that risks and accidents constitute disappointments. A premise in this study is that wilderness accidents cause stress and may further constrain or influence behaviors regarding future participation in similar or related pursuits.

The stress-coping model proposed by Lazarus and Folkman was used as a theoretical guide for this study. The model includes influential personal and situational factors, stress appraisal, coping mechanisms, and short- and long-term outcomes. The stress-coping model has been suggested as useful for deepening an understanding of efforts made to negotiate in the face of leisure constraints. It has been used extensively in studies where conflicts in outdoor recreation settings were believed to cause stress to recreationists.

In this study, level of investment toward adventure recreation pursuits, proximity to the accident, and severity of the accident served as personal and situational factors within the model. They further represented constructs believed to influence coping strategies and the likelihood of return to participation post-accident. *Level of investment* was an umbrella term

used to take into consideration behavioral and attitudinal characteristics often associated with the concepts of *Serious Leisure* and *Recreation Specialization*. *Level of investment* includes the degree in which a particular outdoor adventure activity or set of activities has become a central life interest. The term accounts for other characteristics associated with involvement like commitment, identification, experience, skills/training, and perceived rewards/motivations. Coping strategies are instrumental in determining short-term outcomes and are further associated with long-term outcomes like quality of life.

In-depth interviews were used to gain informed knowledge about the impacts of wilderness accidents among recreationists. Results from the interviews were used to provide a thorough understanding of the prevalence of stress, coping strategies, and outcomes to recreationists based on wilderness accident exposure. This study relied heavily on theoretical and purposive sampling to ensure that a wide range of experience levels were considered. Proximity to and severity of the accident, in addition to level of investment, were used as factors of comparison in the analyses. Coping mechanisms revealed in the data analyses were compared to the more prevalent forms of coping functions identified in previous studies in outdoor recreation as well as the emotion-focused and problem-focused measures in the Ways of Coping Questionnaire (WOCQ). The WOCQ is a 66-item questionnaire that measures the processes individuals use to cope with internal and/or external demands of stressful encounters. The authors Lazarus and Folkman include eight categories or scales within the WOCQ.

DEDICATION

Luke 10:27

This dissertation is dedicated to my parents, Tom and Ruth Ann McMahan, for their love, encouragement, and for the countless sacrifices they have made for me throughout my life. They have been my biggest fans regardless of the endeavor. This dissertation is also dedicated to my grandparents whom I loved dearly: John R. McMahan, Mildred Ella McMahan, Jack Merritt, and Mildred Ruth Merritt.

In memory of Bruce Andrews

ACKNOWLEDGEMENTS

A special thanks to my extended family and, in particular, my aunt, Karen Copeland, who helped me renovate my house in the middle of my studies. While I would also like to thank all of my friends for their patience during this process, I would like to single out two in particular: May Ann Jennings for her faithful friendship over the last 15 years and Stuart Smith for his acknowledgement of the small steps along the way. During the last year of my studies, he faithfully mowed my yard and was most patient to listen to me talk about my research for hours at a time during early morning runs, all of which he did without complaint.

I feel privileged to have had influential professors, both at Baylor University and Oklahoma State University: The late Burnie Battles, Dale Connally, Buddy Gilchrest, Chris Cashel, Lowell Caneday, and Steve Edwards. I have also had great bosses and mentors who kept me engaged and interested in the recreation profession: Melissa Murnane, Alistair Young, Kip Prichard, Randy Morrow, and Bob Hart. There were many transformational years that fed the passion to take my education one step further. These years included interaction with many inspiring individuals. First, to my friends with Outdoor Leadership Lab: Tom Coffan, Dr. Jimmy Griffin, Joe Hicks, Hal Hill, Eddie Pettit, Greg Plott, David Rogers, and Greg Windham. To those at the Colorado Mountain School and the American Mountain Guides Association office: John Bicknell, Bob Chase, and Ed Crothers. Thanks to friends at the City of Georgetown Parks and Recreation Department, Traci Stengle, Joe Armstrong, and Robert Staton, and to the outdoor adventure team at Baylor: Cody Schrank, Jeremy Yarbrough, Mark Mullert, and many outstanding graduate students. My professional career has taken me wonderful places and left me with lifelong friends, and I am grateful for them all.

DEFINITION AND TERMS

Risk-Related Recreation and **Outdoor Adventure Pursuits** are used interchangeably in this dissertation. They both derive from the definition of adventure and are narrowed to include outdoor pursuits. Associated and additional definitions are noted below in alphabetical order.

Accident   while it is conceivable to use incident and accident synonymously, incident will be used to refer to an unexpected occasion when there is a loss, illness, injury, or fatality, due to either human or environmental dangers or a combination of both (Priest, 1999). Accident is further defined as an unexpected, undesirable event that produces injury or loss of some kind due to environmental or human factors (Blanchard, Strong, & Ford, 2007).

Adventure   is a subset of leisure and contingent upon the qualifications of the leisure experience; therefore, it is activity freely chosen for the sake of the activity itself. It is also considered a type of recreation containing elements of an unknown outcome and risk as well as mental and physical challenge (Priest, 1999).

Cognitive Appraisal   is defined as "a process through which a person evaluates whether a particular encounter with the environment is relevant to his or her well-being, and if so, in what ways" (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986, p. 993).

Constraints   are considered to be factors that inhibit or prohibit a person's participation or enjoyment of leisure or limit the formation of the leisure preference (Jackson, 2005).

Constraint Negotiation   refers to the efforts of individuals to use behavioral and cognitive strategies to facilitate participation despite constraint (Schneider & Wilhelm Stanis, 2007a).

Coping   is defined as constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person (Lazarus & Folkman, 1985).

Hassles   are little things that arise from roles in daily living that are irritating and distressing (Lazarus & Folkman, 1984).

Judgment   is the combination of information available at the moment combined with past experiences to yield a decision (Wagstaff & Cashel, 2001).

Outdoor Pursuits   are human-powered activities in a natural outdoor environment, including land and/or water (Priest, 1999; Erpeding & Harrison, 2012).

Risk   refers to the potential to lose something of value and is not bound to only death or physical injury. Risk also encompasses the potential for emotional, social, or psychological loss.

Serious Leisure   is defined by Stebbins (1992) as the systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge.

Specialization   refers to a continuum of behavior from the general to the particular reflected by equipment and skills used in the sport, and activity-setting preferences. (Bryan, 1977).

Stress   is a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being (Lazarus & Folkman, 1984). For the purpose of this study, *stress* was narrowed to refer to any situation, feeling, or encounter appraised as harm/loss or threat that caused distress or was disturbing to individuals as a direct or indirect result of the accident.

Wilderness Accidents   is a term chosen to capture the dynamic nature of the natural environment, including inherent environmental dangers and real consequence. It is considered different than other adventure-related environments such as indoor rock walls, front-country experiences, and ropes courses, whose environments are often more controllable and predictable. For simplicity, the term wilderness accidents will refer to natural outdoor settings where risk-related recreation or outdoor adventure accident might occur.

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CHAPTER I

INTRODUCTION

Context and Statement of the Problem

This study will investigate the impact of wilderness accidents on the recreationist. The type of accident considered occurs during participation in outdoor pursuits within wilderness settings. *Outdoor pursuits* are defined as human-powered activities in a natural outdoor environment, including land and/or water (Priest, 1999; Erpelding & Harrison, 2012). Outdoor pursuits were considered because of the interaction with the natural environment that naturally involves objective and subjective factors. In addition, outdoor pursuits purposely narrowed the type of activity included. For the purposes of this paper, risk-related recreation and outdoor adventure pursuits/activities are used interchangeably. In addition, "wilderness accidents" is used to denote frontcountry or backcountry outdoor settings. The activities are further defined by their inherent elements of adventure, challenge, and risk. Within this context, individuals may participate independently or as part of a formal program. Regardless of structure, individuals and program leaders seek to maximize rewards and minimize harm. Within outdoor leadership literature, scholars differ in opinions about the use of the word "incident" or "accident." Given the prevalence and familiarity of the publication *Accidents in North American Mountaineering* for recreationists and professionals, the use of "accident" among outdoor recreationists, and to delineate between "incident response," the term accident was selected for use in the study. The definition was adapted based on several ideas introduced by Blanchard, Strong, and Ford (2007). Accident is defined as an unexpected, undesirable event that produces injury or loss of some kind due to environmental or human factors.

From a scholarly and managerial perspective, there are both practical and philosophical interests in risk. According to the publication *Accidents in North America Mountaineering,* 445 people, of varying experience, were involved in accidents in 2012 on ice, rock, snow, and river terrains (Williamson, 2013). Accidents can compromise the quality of the experience and jeopardize goals. Adventure experiences are often promoted to beginners as encounters that hold great promise for personal transformation, growth, and rewards. Participation affords a great number of personal, psychophysiological, and social benefits. These benefits often motivate continued participation (Manning, 2011). As participants become more invested, rewards can outweigh perceived costs (Stebbins, 2005). Accidents, however, can bring sudden change to expectations or threaten what has been realized in the past.

Risk, in the context of adventure pursuits, is defined as the potential to lose something of value. This includes physical, social, emotional, and psychological loss. Within outdoor organizations and even among competent recreationists, the focus on risk centers on two main areas: risk prevention and incident response. Risk prevention places emphasis on mitigating and managing risk. The latter addresses the procedures for response when or if an accident occurs. There is a great deal of academic and practical literature that equips individuals with knowledge to recognize, mitigate, and manage risk. Risk is a central theme at conferences held in the U.S. each year, including the Association of Outdoor Recreation and Education, the International Conference on Outdoor Leadership and the Wilderness Risk Management Conference. These conferences cater to the needs of not only outdoor leaders, land managers, search-and-rescue teams, and guide services but to the general public as well. In addition, there are several foundational or general certifications, in addition to activity-

specific ones, geared toward risk prevention/response for both professionals and recreationists. For a variety of reasons, professionals and lay people are interested in accidents. As such, accident analysis and documentation has become an industry standard. The overarching principle or belief is that openness about and accessibility to information pertaining to accidents will serve as a useful educational tool and preventative measure that will beget positive outcomes.

Only recently, however, has there been more open dialogue about the impacts of a wilderness accident on individuals. Part of the attention has been based on an acknowledgment that accidents are indeed traumatic. There is also a need to better understand and support the human response to accidents that occur during outdoor recreation pursuits.

There are several aspects of wilderness accidents of interest in this study. An analysis of wilderness accident exposure suggests individuals experience some level of stress. The severity and proximity of an accident are likely to affect how much stress people experience. Stress may represent a type of constraint that requires coping or negotiation. To this end, I am interested in the relationship of accident exposure and stress. I am also interested in how participants cope with stress from accidents. Stress and subsequent coping are likely to be related to future participation.

Finally, there is theoretical evidence to suggest that characteristics associated with the level of seriousness or degree of specialization may moderate how a participant perceives and deals with stress. Individuals who are more serious or specialized in regards to their particular pursuit or risk-related recreation pursuits in general may perceive stress differently

than beginners. They may also use different coping strategies and display more motivation to maintain participation.

Narrative accounts from a recent study reported by Davidson (2012) of New Zealand mountaineers lay bare many of these ideas. Several mountaineers in Davidson's study spoke of their own encounters with death and described an even more intense reaction period or pause from their own climbing on occasions when victims were close friends. One individual said, "…it was a lot more immediate, a lot more in my face" (p. 308). In spite of known danger and accidents, these mountaineers relied on strategies and made concerted efforts to manage risks in order to maintain participation. They also chose not to dwell on accidents. These mountaineers attributed many accidents to errors in judgment but also recognized some are due to chance and luck—for example, being in the wrong place at the wrong time. The benefits and rewards that individuals associated with participation, and a love for climbing, seemed to outweigh the risks and negative experiences. The narratives in Davidson's study represented perspectives from individuals who were avid mountaineers. They were frequent participants who had acquired more advanced skills and who were committed to their interests and involvements in mountaineering based on rewards and benefits. One limitation in this particular study was the absence of perspectives of mountaineers who gave up or chose not to return to mountaineering because of danger.

My study was focused on gathering information that would deepen an understanding of the impacts of exposure to wilderness accidents and ensuing human responses. To improve and contribute to the body of knowledge, consideration was given to a broader spectrum of experience levels, which included individuals who had only accumulated a few experiences and were in the early development of their skills to those who were more advanced and who

had devoted their lives to a variety of risk-related recreation pursuits. In addition, several outdoor adventure pursuits were included in this study.

Conceptual Framework

I used the *stress-coping* model developed by Lazarus and Folkman (1984) as a conceptual guide for this study. The framework has been further adapted by Schneider and Wilhelm Stanis (2007) in the leisure literature. The *stress-coping* model contains five major areas theorized to be at play in the context of a wilderness accident. The original stress-coping model (Figure 1) has taken on many adaptations but consistently includes the five major areas believed to describe how an individual subjectively interprets a stressful transaction (Lazarus & Folkman, 1984; Miller & McCool, 2003; Schuster, Hammitt, & Moore, 2003; Schneider & Stanis, 2007a). The areas of the model include:

1. Personal and situational factors as influencing factors
2. Cognitive or stress appraisals
3. Emotion- or problem-focused coping responses
4. Short- and long-term outcomes.
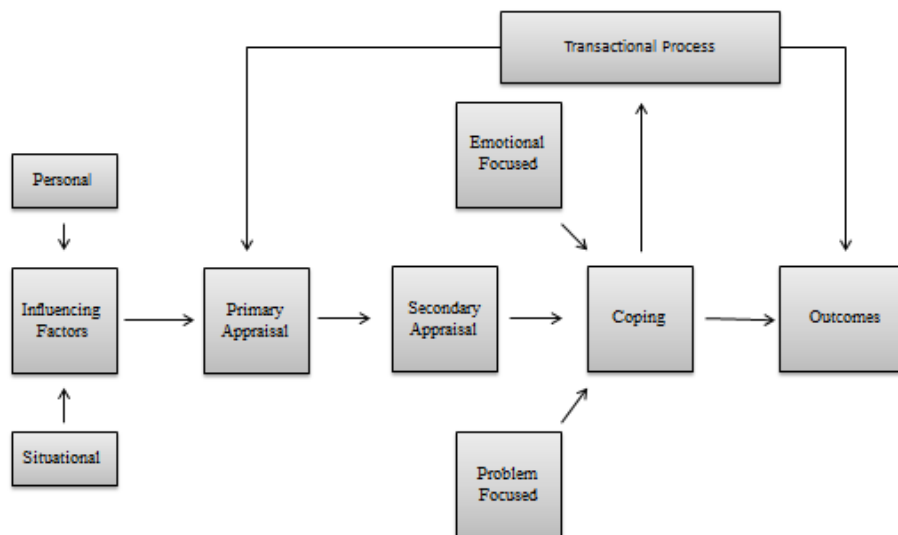
Figure 1 Transactional Stress/Coping Model. This model was used to guide the current research and indicate factors relevant to this study based on a theory developed by Lazarus and Folkman (1984).

The model takes into consideration how individuals make subjective interpretations of stressful transactions. Within the model, personal and situational factors are believed to influence the stress-appraisal process. For example, in this study, personal factors included past experience or personal investments attributed toward a particular pursuit. Situational factors included the surrounding environment and details of a wilderness accident. Several leisure scholars liken stress and coping to constraint and negotiation theory (Hutchinson & Kleiber, 2004; Iwasaki & Schneider, 2003). Schneider and Wilhelm Stanis (2007a) believed that coping serves the same function in the model as negotiation and is a useful alternative to other negotiation models. The areas of the model and connection to constraint negotiation will be discussed in subsequent sections.

This study assumed that exposure to a wilderness accident by recreationists would result in a stressful transaction—Lazarus and Folkman (1987) use *transaction* in a relational manner to refer to the person and the environment as interdependent factors in determining emotion. Lazarus and Launier (1978) described three stress-related relationships that mediate between the person and a cognitive appraisal of stress. The three stress-related relationships are harm-loss, threat, and challenge. The cognitive-appraisal process includes a primary and secondary appraisal based on these relationships. *Cognitive appraisal* can be defined as "…a process through which a person evaluates whether a particular encounter with the environment is relevant to his or her well-being, and if so, in what ways" (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986, p. 993). Primary and secondary appraisals include evaluations based on what is at stake and what can be done to overcome or prevent harm. Primary appraisal has been evaluated based on physical, psychological, social, financial, and occupational stakes relevant to well-being. In a secondary appraisal, individuals determine what coping resources are available. Lazarus (1966) suggested that the critical, theoretical, and empirical issues pertaining to stress include "…the external and internal forces that contribute to stress reactions, the forms the reactions take, and the structures and processes that intervene between the stress stimulus and the stress response" (p. 29). Lazarus and Launier (1978) described stress and coping as "…a special kind of transaction between a person of a particular sort (i.e., with plans, commitments, hidden agendas, and belief systems) and an environment with its own characteristics (e.g., demands, constraints, and resources)" (p. 320). They also argued that systematic research on how people cope depends on analysis occurring in a variety of stressful situations.

In this study, I was interested in the degree in which wilderness accidents produce stress and participants' reactions to that stress. Schneider and Stanis (2007) posit that recreation experiences can cause stress or be the source of a negative life event. As noted above, personal narratives from journalistic stories, adventure-oriented books, and scholarly literature suggest that high-profile and highly committed adventurers reflect on risk and consider their desire to continue participation after an accident (Coffey, 2003; Davidson, 2012; Oliver, 2006). These accounts suggest that individuals experience a variety of emotions after an accident. Some of these include regret over the death of a friend, thoughts of one's own mortality, confessions of fear, burdens placed on others, and grief over injuries. A serious accident can become a negative life event that brings about disruption, uncertainty, loss, and isolation (Hutchinson & Kleiber, 2005; Williamson, 2013).

It is my contention that stress from accidents may constrain future participation. Within leisure studies, *constraints* have been defined as factors that inhibit or prohibit a person's participation or enjoyment of leisure or limit the formation of the leisure preference (Jackson, 2005). In similar fashion, personal or social values can be disrupted or threatened from stress-inducing experiences (Lazarus, 1966). Lazarus and Folkman (1984) define *stress* as "a particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p.19). Many studies investigating stress and coping within the context of outdoor recreation or wilderness settings have used variations of the stress-coping model based on a variety of stress stimuli, but have not necessarily characterized stress as a constraint or coping as a form of negotiation (Johnson & Dawson, 2004; Park, 2005; Peden & Schuster, 2005; Schneider, 2000; Schuster, Hammitt, & Moore, 2003; Schuester, Hammitt, Moore, & Schneider, 2006;

Vitterso, Chipeniuk, Skar, & Vistad, 2004; Wang & Chang, 2010). Conceptualizing stress as a constraint provided insight into the effects of stress and the degree to which it impacts future behavior.

   Coping is another area in the model and is defined by Lazarus and Folkman (1985) as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). Schneider and Wilhelm Stanis (2007a) refer to a type of troubled person-environment relationship. The two main functions of coping are emotion-focused and problem-focused efforts. Efforts are used to regulate emotions and/or ameliorate the problem. Individuals may orient coping toward one or both functions.

   This study explored coping efforts as forms or evidence of negotiation. In addition, emphasis was given to the degree in which stress resulting from wilderness accident exposure impacted future behavior. Therefore, it was believed that coping skills would become necessary to (1) navigate certain stress stimuli and (2) lead to or alter future participation. Schneider and Wilhelm Stains (2007a) argued that negotiation is both. Coping is thought to serve the leisure-constraint process much like negotiation (Little, 2007). Like negotiation, the stress-coping model incorporates cognitive and behavioral strategies. For example, Miller and McCool (2003) investigated stress and coping based on encounters in an outdoor recreation setting that detracted from the quality of the experience. Schuster et al. (2003) examined stress appraisal and coping in the context of hassles that occur in outdoor recreation settings. Lazarus and Folkman (1985) refer to hassles as little things that arise from roles in daily living that are irritating and distressing. They use the term *hassles* as a comparison to more traumatic events that bring about major life changes. Chroni,

Hatzigeoriadis, and Theodorakis (2006) evaluated how novice climbers coped with the stress resulting from lack of experience, fear, and lack of perceived control. In these three studies, coping involved emotion-focused and problem-focused efforts, as well as changes and/or substitution in activity or resource. These efforts extend beyond amelioration of anxiety or stress.

The final category of the stress-coping model pertains to outcomes. The outcome that was of most interest in this study was long-term participation. Turning to the original assumption that wilderness accidents cause stress, the question became how does stress influence future participation? In particular, I was interested in an individual's perspective toward and participation patterns in the specific activity associated with a wilderness accident (i.e., return to participation) and activities that are similar in terms of risk exposure but may take on a different form. For example, if an accident occured on glaciated terrain while on a rope team, a participant might have decided not to travel on glaciated terrain on a rope team in the future but might have continued lead-climbing on technical rock terrain. Namely, interest was given to whether participation stayed the same, varied, or proved different after the accident.

In his seminal work on stress and coping, Lazarus (1966) referred to stress as intense and distressing experiences that influence behavior. The behavioral changes that occur due to constraints have been referred to as both accommodation and/or negotiation within constraints literature. Samdahl (2007) feels the term "accommodation" is better suited to capture the dynamic nature of the environment causing the constraint as well as efforts made on behalf of individuals to deal with constraints. In short, she felt negotiation as it has previously been defined is restricting and void of context. However, Jackson's (2005) three-

category typology best represents the negotiated response to constraints of interest in this study. Future participation may result in no change (proactive response) or reflect some altered or modified participation (partly successful proactive response). It is also quite possible that accident exposure might be so powerful as to suppress future interests. If coping results in no participation, this is referred to as a reactive response.

One compelling aspect of this model is the personal and situational factors believed to influence the stress-appraisal process. Lazurus and Launier (1978) described how the relationship between person and environment is necessary to appraise threat and stress. Threat appraisal represents a balancing act between the demands (i.e., the environment) and coping resources (i.e., the person or personal commitment) prevalent in the situation. The wilderness accident represents the environmental context while proximity and severity of the accident further influence stress appraisal. The commitments and beliefs of each participant are factors associated with the person. Schneider and Stanis (2007) believed that commitment is similar to the role of motivation in the constraint and negotiation process.

There are several approaches from which to explore commitment or motivation, but two useful theoretical models are *serious leisure* and *specialization*. Although proposed by different scholars, both specialization and serious leisure are concepts useful in understanding commitment. They also are consistent with how Shamir (1988) saw commitment not as evidence of a single act, but rather as a term that captures consistent and stable behavior across time and over an array of behaviors. Stebbins (1992) defined *serious leisure* as "the systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge" (p. 3). The six characteristics

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that describe a serious participant are perseverance, careers, personal effect, durable benefits, ethos, and identification. *Specialization* as proposed by Bryan (1977) provides a framework that places the recreationist's preferences and behaviors on a continuum ranging from "casual" to "committed." While there is debate about whether progression along this continuum is predictable (Scott & Shafer, 2001), those who do progress become more specialized. In addition to accruing more knowledge and skills, specialized recreationists identify more strongly with the activity and display different behaviors than the generalist.

A common thread between the serious leisure and specialization constructs is a type of intense participation in complex forms of leisure (Scott, 2012). In general terms, these constructs provide a distinction between a casual and more advanced participant in a number of cognitive, affective, or behavioral characteristics (McFarlane, 2001). The variation in knowledge and experience among participants serves as a useful place to illustrate conceivable differences in the appraisal and manifestation of stress in the context of accidents. For instance, highly specialized or serious participants have advanced skills and experience to evaluate environmental and human factors that contribute to accidents. As a result, they may deem accidents as less stressful. They may also gain satisfaction from the opportunity to use skills and knowledge to combat or successfully manage risks. In addition, these constructs might further elucidate the motivations that direct the coping strategies influential to future behavior.

Arguably, someone who is more invested may not only recognize more resources for coping but have different motivations for doing so as well. Someone who is highly motivated and invested may orient both emotion and problem-focused efforts toward a particular end beyond the immediate problem and direct efforts toward continued participation. For

instance, an individual may make efforts to understand the circumstances and events leading up to a particular accident in order to participate with a more informed and heightened sense of awareness. Individuals may also experience a unique set of rewards based on prior investments that prove more powerful or influential than the stress from accidents.

The stress-coping model accommodates the research questions driving this study and incorporates all of the constructs of interest. The model aligns with leisure studies in several ways. Stress and coping are a fitting relationship for this particular study, while still serving the broader constraint and negotiation literature. A wilderness accident represents a unique and significant phenomenon that occurs during the course of leisure participation. *Serious leisure* and *specialization* are frameworks that describe how leisure and recreation are experienced for some individuals. These constructs are believed to be integral to the study as they likely inform each of the areas within the model. To capture characteristics of both of these terms and to denote the use of commitment in the model, I will henceforth use the term "investment" or "level of investment."

Purpose of the Study

The purpose of this study was to utilize an adaptation of Lazarus and Folkman's (1984) Transactional Stress Coping Model as it applied to the investigation of a wilderness-adventure accident. The use of the model in outdoor recreation settings and recommendations given by Schneider and Wilhelm Stanis (2007) was also considered. Accidents, injuries, illnesses, and even unexpected death from participation in risk-related recreation are circumstances that can befall recreationists of any experience level and may be the cause of numerous other difficulties. This study contributed to the body of knowledge about stress,

constraint negotiation, and coping within the complex phenomenon of wilderness-accident exposure.

Summary

There are several ideas that offer support for continued research within the context of stress and coping. Van den Berg and Heijne (2005) considered the variation of emotional response across different types of wilderness settings and scenarios as a gap in the literature. Schneider and Hammitt (2005a) included goal interference within an outdoor recreation setting as a source of stress. There is evidence that leisure is used as a tool to cope with stress, but there is less knowledge about how people cope with stress. Little (2007) maintained that the stress-coping framework offers an alternative perspective for a more holistic view of the leisure-constraint negotiation in that it includes the person, environment, and outcome in the process of stress appraisal and coping. According to Iwasaki and Schneider (2003), the method by which people cope with stress in recreation settings has managerial and theoretical implications. They consider individuals that experience trauma and/or wilderness users as two types of special cases that need attention.

Research Questions

Five research questions guided the data collection and analysis of this investigation.

1. What impact does wilderness-accident exposure have on stress appraisal/stress?

2. What coping strategies do outdoor recreationists use to deal with stress resulting from wilderness-accident exposure?

3. What impact does wilderness-accident exposure have on outcomes including social functioning and future leisure participation?

4. How does level of investment impact stress appraisal, coping, and future participation?

5. How does the severity of and proximity to the accident impact stress appraisal coping, and future participation?

The original stress coping model was adapted to reflect the research questions guiding this study and is illustrated below (Figure 2).
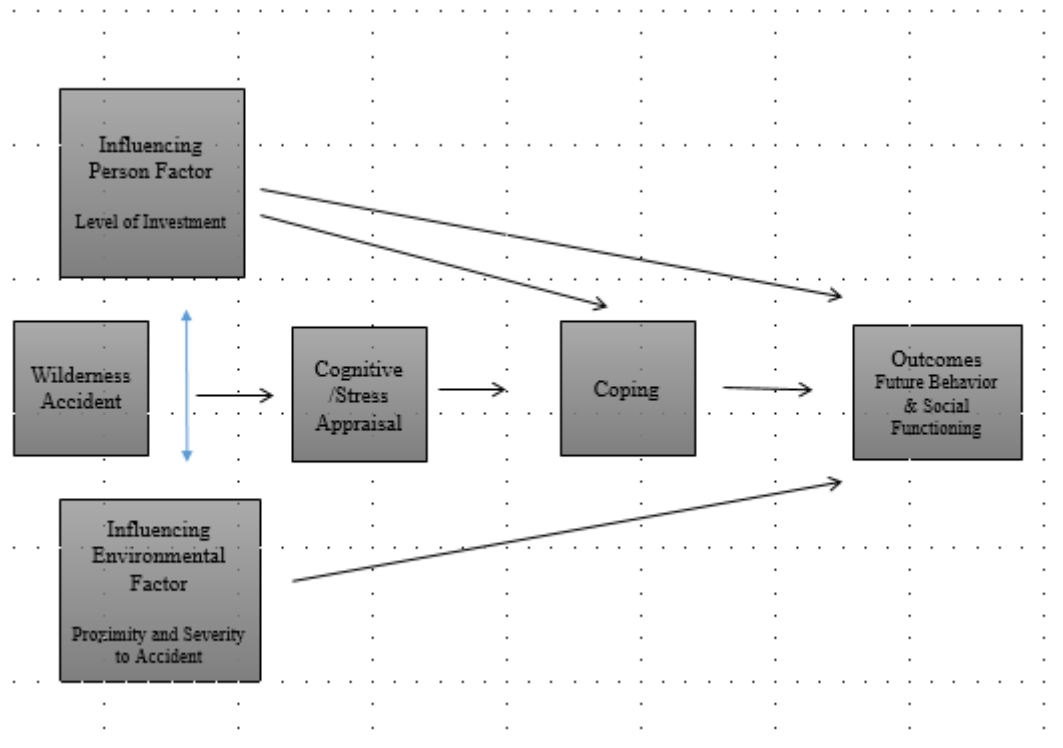
Figure 2 Model of Hypothesized Relationships. This model is a representation of the hypothesized relationships of interest in this study as adapted by Lazarus and Folkman (1984) and Schneider and Wilhelm Stanis (2007).

Rationale and Significance of the Study

In the literature, leisure is frequently cited as a resource for dealing with and managing negative life events, loss, or stress. In some instances, recreation experiences are the source of stress and cause for coping. The notion that individuals face a variety of constraints in leisure and utilize some form of negotiation in order to sustain participation, even in a modified manner, has recently been likened to literature on stress and coping (Hubbard & Mannell, 2001; Iwasaki & Schneider, 2003; Jackson, 2005; Schneider & Wilhelm Stanis, 2007).

Many studies within the context of outdoor recreation have made adaptations to the Lazarus and Folkman (1984) process-oriented coping model. To investigate the appraisal, stress, coping, and behavioral response within the context of wilderness-adventure pursuits, I used an adapted stress-coping model as the guiding theoretical framework. To my knowledge, no study has investigated stress and coping within the context of wilderness-accident exposure, and none have considered *serious leisure* or *specialization* as a predictor or moderator. This study offered a more comprehensive approach to this unique phenomenon not found in other studies investigating strategies related to risk, danger, and accidents. The process-oriented approach to coping places emphasis on the psychological and environmental context in which stress and coping take place. Schneider and Wilhelm Stanis (2007) argued that the context of the specific stressful situation should be central to studies on coping.

Given the practical and management concerns and the theoretical basis for exploring post-accident human response, there is a need to bring clarity to the coping resources and strategies most commonly used. This knowledge will equip those in leadership positions to support individual needs in stressful situations. My intention was to bring greater clarity to

the impacts of a wilderness-adventure incident on stress appraisal, stress, coping, and future participation for the individual.

From a theoretical perspective, this study contributed to constraint negotiation research through the lens of stress and coping. This study allowed for continued narrative construction with focused attention on stress appraisal and coping unique to wilderness-adventure accidents. It also deepened an understanding about the impacts of wilderness accidents on participation. Philosophically, this study contributed to an understanding of leisure constraint and loss.

From a management perspective, some of the individuals who experience stress due to accidents or trauma are outdoor leaders or park service rescue personnel. In other instances, individuals are clients under the care of leaders and instructors who take a professional oath to protect. In either instance, the results from this research will aid managers and program providers in their understanding of and response to clients or personnel when exposed to accidents. Finally, it will contribute to a more comprehensive picture of the full incident response, possibly equipping outdoor leaders with more knowledge and sensitivity with which to consider risk exposure.

Assumptions, Limitations, and Delimitations

Assumptions

1. Participants completing in-depth interviews had some exposure to a wilderness accident.

2. Study participants answered as honestly as possible.

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Limitations

1. Participants were recruited from known organizations offering adventure-oriented programs in a wilderness setting or who cater to individuals with known interest and involvements in these types of pursuits.

2. Participants were asked to report on thoughts and feelings that occurred within the last year. Asking participants to answer retrospectively presented a certain measurement or response bias.

3. There is evidence in the literature to suggest that highly committed respondents may downplay responses to stress in order to defend or protect their pursuit (Davidson, 2012).

4. There are many features of personality that predispose a person to evaluate a situation as stressful or not. This is not a study of personality; rather, this study emphasized level of investment as one possible influence on persons in the stress-appraisal process.

5. Coping is not a static phenomenon; rather, it is adaptive, process-oriented, and is constantly changing. This study did not attempt to measure coping mechanisms at specific moments in time after a wilderness accident nor was it concerned with duration. This study was specifically interested in the range and type of coping strategies over a segment of time appraised as stressful by the individual.

6. No attempt was made to gain contextual information about the accidents themselves. Some accidents were understood to be highly unusual, whereas others represented risks associated with a particular pursuit. Some environments were so remote and so

predisposed to environmental hazards that certain accidents would be highly
associated with luck. Others were quite benign, and an accident would seem an
anomaly. This differentiation would be expected to influence stress appraisal.

7. Results from this study are not expected to generalize to all stress-related conditions.

Delimitations

1. Participants had some affiliation with outdoor-oriented organizations and programs in
order to ensure the research questions of the study could be investigated in a timely
and cost-effective manner.

2. Focus was given to organizations and programs associated with wilderness land-
based or water-based pursuits and excluded indoor or artificial-adventure
environments.

CHAPTER II

LITERATURE REVIEW

There are endless opportunities for pursuing adventure within outdoor recreation. On any given day, individual parties request permits to climb Mt. Rainier, to hike or raft the Grand Canyon, or to climb Half Dome. Individuals request the expertise of guide services to participate in activities as entry level as a day of top-rope rock climbing to as extensive or advanced as an expedition to climb Mt. Everest. University outdoor-recreation programs are commonplace, and the National Outdoor Leadership School and Outward Bound are familiar household names. Ewert and Sibthorp (2014) attributed growth in outdoor-adventure experiences to their perceived benefits and to the way organizations feature and promote experiences. The tourism industry has also seen a trend in interests toward adventure tourism (Beedie & Hudson, 2003; Nepal, 2002; Weber, 2001).

One aspect of interest in all of the aforementioned contexts is the inherent risks and associated consequences of accidents to individuals. In fact, a rise in outdoor and risk-oriented outdoor recreation has been accompanied by a growth in injuries and fatalities (Oliver, 2006). Interest from the general public can range from outrage over the costs associated with harrowing rescues to fascination and awe over accomplishments of the "man versus wild" variety. A great deal of attention is given to on-going risk assessment, incident prevention, and response in order to make the outdoor industry more professional. Ed Crothers with the American Mountain Guides Association (personal communication, April 29, 2014) referenced the trend for outdoor organizations and land-management agencies to track and make incident information public. The on-going dialogue about risk and accidents has heightened an awareness of the impacts of accidents on recreationists.

Within leisure studies, the positive and negative aspects of risk recreation have always been of interest. As early as 1923, George Mallory was asked "why" with respect to his climb of Mt. Everest to which he gave the imfamous reply "because it is there" (Bratton, Kinnear, & Koroluk, 1979). Scholarly inquiry has led to theories about motivations for risk-recreation, personality types that predispose some toward extreme risk taking, and the unique outcomes that sustain interest in spite of risk. An unfortunate part of risk are the consequences or feelings of loss associated with accidents. The next several paragraphs illustrate some of the psychological factors participants may experience based on risk and accident exposure.

In his book *Challenging Mountain Nature*, Stebbins (2005) identified disappointments from injuries as a type of cost associated with devotee hobbyists participating in outdoor pursuits. In a study conducted by Davidson (2012), members of elite climbing parties who had encountered accidents were asked to reflect on the costs and perceptions of risk regarding future intentions about participation. These New Zealand mountaineers, also identified as devotee hobbyists, identified similar disappointments, including regret over losing friends in accidents and the mischaracterization of their pursuits by the public. They also acknowledged the presence of danger during participation and characterized experiences as frightening enough to question their climbing. In another narrative, a participant involved in an urgent and dangerous situation on a mountain descent acknowledged it as "…one of life's worse-case scenarios. I'm sure we all questioned our mortality and calculated the odds of survival" (p. 37).

In the documentary *A Dozen More Turns*, an avalanche survivor's story is used to highlight the emotion-driven or human factors that influence risk taking (Outdoor Safety

Institute). One survivor provided an emotional reflection on how his life was turned upside down in a matter of seconds and says his day "...went from the best day of skiing ever to …my best friend just died and, quite frankly, I'm not looking too good at the moment either…it was a daunting thing to undertake…." Similar reflections were captured from a National Park Service employee who commented days after the death of a fellow ranger during a rescue that he was unsure he wanted to continue because *he* didn't want to die. Yet in the same speech, his mindset seemed to transform as he reminded himself and others of the merit and rewards of his line of work, ultimately pledging to climb again (Smith, 2012).

In instances where mountaineers are asked to describe the way they perceive risk and handle injuries–even death–they often downplay risk and describe it as overstated and quite manageable (Coffey, 2003; Davidson, 2012). They also critique their own actions (Davidson, 2012) or actions of others (Lyng, 1990). These analyses then become strategies for future decision-making and judgment in similar situations. By the mountaineers' accounts, the accidents they have witnessed or experienced have made them more aware and more careful and have caused them to appreciate life more. In her popular book, Maria Coffey (2003) described how survivors of mountaineering accidents questioned and sometimes even vowed to give up their pursuit. She concluded that these individuals rarely kept promises made to self or others and most often returned to climbing.

Some scholars have questioned the moral justification of those who take risks. Many mountaineers acknowledge exposing family and friends to emotional pain and the larger outdoor profession to criticism (Oliver, 2006; Russell, 2013; Quinn, 1999). Many admit they feel their pursuits are selfish. Significant others, family, and friends experience psychological distress and anxiety when a loved one is pursuing, has been injured in, or died due to

participation in extreme adventures (Coffey, 2003, 2008; Wu, 2013). The long-term impacts on relationships of co-participants involved in accidents have also been explored. In 1985, two young British climbers fell while attempting to reach the summit of Siula Grande in Peru. In order to save his own life, Simon Yates cut the rope attaching him to his partner, Joe Simpson, which caused Simpson to fall further down the mountain. Yates assumed that Simpson was dead when, in fact, he was not. After the incident, the men suffered a strained relationship and spoke only a few times. Yates was quoted as saying, "Climbing partners are like work colleagues. Some work colleagues go on to become friends, some become acquaintances, and some people you work with–well, you rather wish you didn't" (*Sydney Times Herald*, 2005).

The majority of popular and scholarly literature pertaining to the consequences or loss associated with risk often highlights elite climbers, mountaineers, and others who engage in extreme adventure sports (Coffey, 2003, 2008; Lyng, 1990). These accounts provide some evidence as to how risk-related accidents impact the recreationists. While these accounts provide some evidence, wilderness accidents have not been investigated based on fit within the proposed model. As previously described, the Stress-Coping Model includes personal situational factors, cognitive stress appraisals, coping, and short- and long-term adaptation outcomes. In this study, my investigative efforts brought to light both commonalities and variations that exist for recreationists in the context of wilderness-accident exposure.

Conceptual Framework

This study examined the impact of wilderness accidents on the individual based on a stress-coping theory developed by Lazarus and Folkman (1984). The stress associated with

wilderness-accident exposure was further conceptualized as a type of constraint and coping as a form of negotiation. Lazarus and Folkman's (1984) model (Figure 1) assumes that a transaction occurs between the person and the environment, followed by a judgment made about the transaction. Lazarus and Folkman (1987) use *transaction* in a relational manner to refer to the person and the environment as interdependent factors in determining emotion. Individuals first determine the presence of stress, then evaluate based on jeopardy, harm-loss, or opportunity in which options for coping are assessed and utilized. According to Lazarus (1966), stress is not any one thing but a collective term for an area of study that includes the stimulus, intervening variables, and response.

In the remaining pages of this chapter, I will first present a rationale or description for why I believe the stress-coping model is relevant to wilderness-accident exposure. I will then highlight literature that has argued for similarities between stress-coping and constraint negotiation, its applicability to the study problem, and the use of the stress-coping model in outdoor recreation settings. Finally, I will introduce each of the five aspects of the stress-coping model. Within each of the five categories, I will describe the theoretical basis of each area, describe its use within the broader outdoor recreation settings, and narrow its applicability to the research problem.

Relevance of Stress-Coping to Wilderness-Accident Exposure

A combination of personal experience, conversations, and immersion in texts and literature suggests to me there are a range of strategies (coping/negotiation) that recreationists will use when they are exposed to a wilderness accident in order to consider or reconcile their own participation. That participation can be immediate or oriented toward the future. In any

event, individuals will consider the likelihood of the same scenario happening to them. The

consideration may be brief and easily overcome, or it may require time and distance.

Individuals may persevere despite fear or anxiety, they may modify behavior, or they may

make more major activity substitutions.

Coping strategies and future participation may depend on the degree of exposure (i.e.,

how traumatic, how close in proximity the accident was, or the personal effect of the accident

on the individual). Coping strategies may take different forms. They may be directed toward

relieving anxiety or fear. They may also be aimed at reconciling, rationalizing, or

accumulating as much information as possible so as to avoid similar situations, while still

maintaining participation. The strategies may be internal, external, facilitated, or some

combination.

Coping strategies may be somewhat dictated by current demands. If an accident

occurs on-site, such as in the case of the tragic ice fall in 2014 that claimed 16 on Mt.

Everest, the individuals waiting to climb must quickly process that information in order to

determine how they will proceed. The coping strategies and ultimate outcomes of

participation can somewhat be explained by internal (i.e., peer pressure/perceived rewards)

and external motivations (i.e., financial/time investment), personality disposition, and life

circumstances. While personality disposition is not a factor in this study, it is likely that the

coping strategies used and nature of future participation can be partially explained by level of

investment.

Constraints and Negotiation

Leisure has a well-documented role as a palliative mechanism in a variety of difficult life scenarios (Hutchinson & Kleiber, 2005; Iwasaki & Mannell, 1999). Leisure can simply act as a buffer or serve behavioral and cognitive efforts to cope with stress (Iwasaki & Mannell, 1999). But in the instance of a wilderness accident, leisure becomes the source or cause of an array of deleterious impacts recreationists might experience, including feelings of disappointment, anxiety, fear, conflict, harm, injury, pain, trauma, and loss.

Within leisure studies, constraints and negotiations literature provides a logical framework to begin to understand how emotional and psychological factors make future participation problematic. Research over several decades has expanded original assumptions about the effect of constraints (Jackson, 2005). Constraints encompass more than structural or barrier-like challenges (Crawford & Godbey, 1987). They may originate as psychological factors, known as intrapersonal constraints (Crawford, Jackson & Godbey, 1991). Constraints are factors that impact both participation and preferences (Scott, 2005). It is important to note that constraints do not necessarily prohibit initial participation or lead individuals to discontinue or cease participation. Researchers have noted that participants actively use negotiation strategies to circumvent constraints (Crawford & Godbey, 1993; Hubbard & Mannell, 2001). Researchers have also noted that motivation strongly impacts an individual's use of negotiation strategies (Hubbard & Mannell, 2001; Jackson, Crawford, & Godbey, 1993; Schneider & Stanis, 2007a; White, 2008).

In recent years, leisure scholars have identified similarities between leisure constraint and negotiation strategies on the one hand and the stress-coping processes on the other (Little, 2007; Samdahl, 2007; Schneider & Stanis, 2007b; Walker, 2007). Much of the

discussion has been conceptual, has centered on the merit of such a connection, and has identified areas where such a comparison is most appropriate.

Stress and Coping in Leisure Studies

One of the earliest conceptual and empirical contributions came from Schneider and Hammitt (1995a, 1995b). In addition to describing the integral part of the stress-coping model, they advocated for the use of the model in recreation-conflict studies due, in part, to their view that various forms of conflict, like crowding, were indeed stressful transactions. In addition, they reviewed and presented seminal models for outdoor recreation user conflict, while at the same time promoting the use of the Ways of Coping Questionnaire (WOCQ) as a tool to expand current knowledge on response strategies. Their study of visitors who had experienced on-site conflict in two national parks over a summer/fall season served as an initial look at the relationship between conflict intensity and the type of coping responses (emotion/problem-focused) used.

Schneider and Wilhelm Stanis (2007a) devoted a paper to the topic of the similarities between the stress-coping model and constraint and negotiation. They paralleled the concepts of the model with constraint negotiation literature. Some of the similarities positioned the behavioral and cognitive strategies of constraint negotiation to the problem-focused and emotion-focused dimensions of coping. They also likened the feedback loops of constraint negotiation to the ongoing or iterative nature of the appraisal process. Ultimately, they argued that while the operationalization of negotiation was in its infancy, the stress-coping model had been tested extensively and could shed light on and expand current knowledge about negotiation through coping. In this same paper, they defined constraint negotiation as

the "effort of individuals to use behavioral and cognitive strategies to facilitate participation despite constraint" (p. 392), which may result in modified, rather than abandoned, participation.

One of the more favored propositions is the way coping sheds light on the negotiation process. Scholars have also raised concerns. Samdahl (2007) believed that coping would have a limited role within constraints and negotiation. Constraint theory suggests that, when faced with constraints, individuals often choose more desirable leisure options, thus leaving coping for the particular activity in question unnecessary. Samdahl also felt the stress-coping theory was directed toward reduction or resolution of negative feelings void of intrinsic motivations considered essential in the negotiation framework. Samdahl (2007) and Walker (2007) both expressed concern over the omission of macro-level constructs (i.e., gender, ethnic, and cultural influences) on stress and coping.

The inclusion of level of investment as a construct of interest in this study will, in part, address some of these concerns. Variations in level of investment might serve to provide some explanation as to why participants would stay committed, in spite of stress, making forms of coping useful. Level of investment also accounts for a variety of external and internal motivations that might drive the need for coping beyond that of emotion regulation. Finally, level of investment can be associated with varying degrees of strong social-world orientations. Thus, level of investment begins to address the limitations of previous stress-coping research believed to be void of cultural considerations.

The area of leisure research where stress and coping has received significant empirical efforts has been within outdoor recreation or wilderness settings (Peden & Schuster, 2005, 2008; Schuster, Hammitt, & Moore, 2006; Schuster, Hammitt, Miller, &

McCool, 2003; Schuster et al., 2006). Nevertheless, none of these studies identified stress as a form of a leisure constraint or coping as a form of negotiation. Arguably, the conditions of user conflict, distractions, and hassles that create stress in outdoor recreation or wilderness settings qualify as constraints and coping as negotiation.

In a response to a series of papers discussing the appropriateness of the stress-coping model for constraint-negotiation research, Schneider and Wilhelm Stanis (2007b) pointed to several factors they believed warranted the model's use in leisure and recreation. These factors included its comprehensiveness in stress-coping literature in psychology, its use in research pertaining to the adjustment to disease, and the way it has been integrated into organizational-behavioral literature, further supporting its germane use as well as how it is considered seminal in stress-coping literature. Overall, they believed it has staying power and applicability in a variety of disciplines. A series of works by a variety of scholars in outdoor recreation settings has provided empirical evidence that situations that occur in the outdoors (i.e., user conflict, detractions, minor hassles) do indeed evoke stress (Schneider, 2000; Schuster, Hammitt, Moore, & Schneider, 2006).

Stress and Coping Model

Stress Appraisal

Stress is a term that is shared by other related concepts such as anxiety, conflict, frustration, emotional disturbance, trauma, alienation, and anomie (Lazarus & Folkman, 1984). Types of stressors include major changes and cataclysms that affect large groups of people, a few people, or an individual. Stress is also evident in less dramatic ways as a result of daily living and can include irritating and/or distressing hassles. As noted in the

introduction, *stress* is defined as a "relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (Lazarus & Folkman, 1984, p. 21).

Lazarus (1984) posits that some sort of stress appraisal process is involved between the event and reaction. Within the stress-coping model, appraisal is divided to include a primary and a secondary appraisal. The designation *primary* does not suggest that it is more important than the *secondary*, or that the appraisals happen in a particular order or even separately (Lazarus and Launier, 1978). Rather, according to transaction theory, both have different functions and deal with different sources of information about stress.

During the primary appraisal, a person determines whether anything is at stake to his or her well-being (Folkman et al., 1986). Individuals will judge whether an encounter is irrelevant, benign-positive, or stressful (Lazarus & Folkman, 1984). In the primary appraisal, if there is nothing at stake, the encounter is deemed irrelevant to well-being and will elicit no emotional reaction. If an event is deemed stressful, the appraisal takes on three forms: harm/loss, threat, and challenge. *Harm/Loss* refers to that which has already occurred. *Threat* is the anticipation of harm, and *challenge* refers to the potential for mastery or gain. Lazarus and Folkman (1984) caution against viewing harm/loss and challenge as existing on a continuum and explain that an individual can appraise a situation as both. For example, an experience in an outdoor-recreation setting can seem risky if it is the first time a participant has utilized newly acquired skills independent of an instructor. At the same time, it could be viewed as an opportunity to evaluate oneself and be successful.

The notion of *stakes* embodies the relevance of an encounter's threat to physical, psychological, social, financial, and occupational goals or motivations (Lazarus & Folkman,

1987). Lazarus and Folkman (1987) concluded that an environmental condition would pose no threat unless the combination of motivational (e.g., goals and hierarchies) and cognitive (e.g., beliefs and ways of thinking about what is happening) characteristics result in feelings of vulnerability. Vulnerability occurs when the environmental interaction threatens goals or commitments. If an outdoor recreationist has a goal of reaching the summit of a particular mountain and returning home safely, but is confronted by the reality of a significant accident to others on the same route, he or she may deem that environmental circumstance as an obstacle to accomplishing goals. Lazarus and Launier (1978) equate vulnerability with stress.

It is conceivable that an outdoor recreationist may feel a variety of threats based on a wilderness accident. Ewert (1994) described the type of commitment and involvement demanded of risk-related outdoor recreation. Using high-altitude mountaineering as an example, he stated,

> Engaging in this activity necessitates substantial expenditure in terms of money, time, and personal skills. Participants are often in relative isolation for periods of several weeks to months and are constantly faced with demands on their physical condition, equipment, and emotional stability. (p. 7)

In the case of this study, there are as many conceivable stress reactions and varied emotions as there are accident scenarios. Accidents can be traumatic and elicit fear in situations that are on-going or ones that are anticipated in the future. It is often traumatic and upsetting to see others injured or in pain. Accidents can lead to disappointment when trips must be cut short and the disappointment exacerbated by financial and time investments. Accidents that lead to injury can be expensive and threaten future occupational and leisure goals. Accidents may threaten participation in a particular pursuit that is quite meaningful and important to an

individual. In a more benign manner, an accident may merely serve as a reminder that participation in risk-related recreation in general is not void of certain inherent risks. According to Folkman (1984), as encounters unfold, emotions may fluctuate. Powell (2007) suggested that views or attitudes toward risk as either high or low may be influenced by how well an activity is liked or disliked and not necessarily based on a true reflection of risk. In the absence of wilderness accidents, other less dramatic encounters with wilderness have been associated with negative and positive emotions, and with thoughts of death and freedom in the literature (Koole & van den Berg, 2005).

Secondary appraisal deals with coping options or resources in which a person evaluates what he or she can do to master, reduce, or tolerate the troubled person-environment relationship (Folkman & Lazarus, 1985; Folkman, 1984). More specifically, individuals consider how much control they believe they can exert over outcomes. According to Lazarus and Folkman (1985), "…secondary appraisals of coping options and primary appraisals of what is at stake interact with each other in shaping the degree of stress and the strength and quality (or content) of the emotional reaction" (p. 35). Within secondary appraisal, judgments are made about whether coping options can and might be useful and whether a set of coping strategies will be effective and the consequences of those strategies relevant to other internal/external demands and constraints. In particular, in secondary appraisal, coping resources are evaluated based on physical, social, psychological, and material assets with respect to the demands of a particular situation. For instance, physical assets relevant to the situation may be an individual's personal strength and technical skills. Social assets may represent the trust an individual has in his or her recreation partners or the social resources that are available to support accident analysis.

The appraisal of coping options is greatly influenced by perceived competence. Characteristics such as self-confidence, sense of control, and mastery are examples of indicators of competence. Even in the presence of a potentially damaging outcome, individuals who are confident that harm can be prevented will determine threat to be minimal or absent (Lazarus & Folkman, 1987). On the other hand, even if individuals believe they are competent to control certain outcomes in an encounter, if stakes are very high and there is any doubt, individuals will experience a great deal of stress. Stress is also associated with individuals with high commitment but little competence.

In risk-related literature, loss carries a similar connotation to stake. In adventure pursuits, risk is often defined as the potential to lose something of value (Priest, 1999; Priest & Bunting, 1993). This definition includes physical, emotional, social, psychological, financial, or any loss based on investments made in a pursuit. There are a variety of terms associated with risk, each with their own distinctions, such as danger, peril, hazard, human dangers, environmental dangers, accidents, and incidents, in addition to a distinction between real and perceived risk (Priest, 1999). *Actual risk* is defined as the genuine level or risk in a given endeavor (Erpelding & Harrison, 2012).

In his book, *Challenging Mountain Nature,* Stebbins (2005) studied three groups of mountain hobbyists: kayakers, snowboarders, and mountain/ice climbers. He ascribed four types of risks to nature-challenge activities: (1) unmanaged risk, (2) fortuitous high risk, (3) social high risk, and (4) humanitarian high risk. These categories account for a broader view of risk beyond just physical harm and describe how the presence of each might elicit different threats or stress appraisals. *Unmanaged risk* occurs when individuals are unable to draw on the skills, knowledge, and experience they have acquired. *Fortuitous high risk* refers

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to a type of objective risk that increases as environmental conditions become harder to manage or predict, such as avalanches or falling rock. *Social high risk* could encompass interpersonal or intrapersonal factors, such a peer pressure or a willingness to expose one's self to risk for the sake of recognition. *Humanitarian high risk* includes those occasions where individuals voluntarily expose themselves to risk in order to save lives or recover bodies as part of search-and-rescue teams. Much like secondary appraisal, in which options for coping are determined, all four risk categories represent a type of inherent risk and allow individuals to apply competence to the demands.

These categories are similar to the objective and subjective risk categories often identified in risk-related outdoor-recreation literature. For instance, mountaineers will attribute some accidents to conditions that could have been controlled or managed better through judgment or decision (i.e., the situation could have been different). Some accidents are attributable to misfortune or bad luck (i.e., a condition that had to be accepted) (Davidson, 2012; Lyng, 1990).

In summary, there are a variety of sources or kinds of risks. Once risk is realized through exposure to a wilderness accident, the stress reactions may also be varied, depending on any one or combination of categories of risk associated with the accident. Based on Stebbins's (2005) categories of risk, if an accident is attributable to unmanaged high risk, an individual may feel guilt or disappointment. On the other hand, if an accident is attributable to social high risk, an individual may experience interpersonal stress because of conflict or blame within a climbing party. In the event of fortuitous high risk, the stress may be associated with a lack of felt control.

In the literature, stress appraisal and stress/emotions have been operationalized in a variety of ways. Lazarus and Folkman (1984) offer their own perspective on measurement for stress, emotions, primary appraisals, and secondary appraisals. In early and subsequent studies, they conceptualized stress based on hassles within daily living. Primary appraisal assessed psychological, physical, social, and material goals and commitments. Folkman et.al., (1986) conceptualized and measured stress based on what an individual perceived to be at stake in six categories: one's own physical well-being, self-esteem, occupational, financial, respect from others, and the well-being of a loved one. Other measurement efforts were based on self-reporting of emotions based on four categories: harmful, threatening, challenging, and/or benign. Lazarus and Folkman (1987) originally used four evaluations for the secondary appraisal but later narrowed these to two. Individuals can determine that they have coping options aimed toward controllability (e.g., an encounter that had to be accepted) and changeability (e.g., an encounter that could be changed).

In a study of emotion and coping during college examinations, Folkman and Lazarus (1985) examined emotions during the anticipatory stage of an exam, the waiting stage or time after the exam, and the outcome stage after the grades of the exams were announced. Respondents responded to a five-point Likert scale to indicate the extent they felt fifteen different emotions during the three evaluation times in the study. The emotions were grouped into two appraisal categories. Threat and challenge emotions were deemed anticipatory. Harm and benefit emotions were based on outcome. The results indicated that emotions relevant to threat and challenge were more prominent in the anticipatory and waiting stages. Stress evaluations based on harm or benefits were most high during the waiting stage and outcome stage. In the waiting stage, all four sets of emotions were elevated.

Schneider and Hammitt (1995a) integrated a definition of stress from the Lazarus and Folkman (1984) definition with research on outdoor recreation to form the following definition: "outdoor recreation conflict is defined as disruptive, stressful occurrence in the visitor's recreation experience involving a person-environment relationship that taxes a person's psychological resources" (p. 229). They also included disruption in goal interference as the source of stress, and in context of many of their studies, recreational crowding becomes a special case of conflict (1995b).

In studies that utilized the stress-coping model in wilderness and outdoor recreation settings, there were several different approaches to measurement. Several studies have utilized a dichotomous yes/no for stress resulting from hypothetical or identified situation as a form of primary appraisal (Schneider, 2000; Schuster et. al., 2006). Schuster, Hammitt, and Moore (2003) used a 21-item wilderness-hassles checklist to determine stress. If respondents had experienced hassles, they continued on with the survey. The secondary appraisal was measured consistently for two studies by providing options for coping based on four perceptions of the environment: (1) could change, (2) had to accept, (3) needed to know more, and (4) had to hold back (Miller & McCool, 2003; Schuster et al., 2003). Schuster et al., (2006) used a hypothetical scenario to determine stress. Similar to the previous study, if respondents experienced stress, they continued on. They measured stress further by having respondents indicate the intensity or level of detraction for each item identified.

Miller and McCool (2003) used three measures for stress in a study of detracting setting elements. The first was based on the negative affective portion of the Positive Affect, Negative Affect Schedule (PANAS). In addition, they had respondents indicate overall level

of concern and perceived stress. They found the negative experiences that participants encountered in recreation settings produced low levels of negative emotionality.

There has been some scholarly attention given to the association of death with wilderness settings and individual emotional reactions to wilderness encounters. Koole and van den Berg (2005) suggested that humans' evolutionary relationship with wilderness equipped individuals to, at least in part, deal with risk. Yet nature and close interactions with wilderness still evoke feelings of apprehension and uncontrollability and are connected with death. Koole and van den Berg presented the results from five studies that tested the supposition that individual evaluations of wilderness are rife with ambivalence. In one study, comparisons were made to an individual's inclination to think of certain topics in wilderness versus cultivated environments. Seventy-six percent of participants reported thinking more about both death and freedom in the wilderness than in cultivated environments. According to the authors, the dichotomy illustrates the complexity of wilderness in that there is both a bright and dark side to wilderness. On the one hand, wilderness offers freedom and life. On the other, it represents death and chaos. Koole and van den Berg concluded that differences in responses to wilderness are partially explained by which side of nature is most significant to an individual.

In a similar manner, Weber (2001) described how adventure tourists might perceive risk and challenges differently in outdoor adventure settings. Factors such as personality and pre-disposition toward risk, past experience, and skills might contribute to positive or negative evaluations of the environment.

In a multi-part study, van den Berg and Heijne (2005) attempted to identify the range of emotional responses to natural threat and encounters in wilderness settings. The results

from this particular study suggested not only a range of emotions but also that some emotions were more prevalent with certain personal factors such as gender and an orientation toward sensation seeking. They used open-ended descriptions of self-reported scenarios and followed up with 10 situational characteristics based on danger, dependence, fierceness, immensity, suddenness, proximity, novelty, invisibility, repulsiveness, and absence of others. Respondents could choose between four positive emotions and four negative emotions that represented extremes (e.g., heightened sense of awareness/feelings of vulnerability). The scenario intended to define a sudden experience evoked the most fearful reactions. Feelings of fear and insecurity were the more prevalent of the negative emotions, followed by sadness and tense feelings. High sensation seeking was significantly correlated with each of the eight emotional responses. High sensation seekers reacted less to fear-oriented scenarios, reported more positive than negative emotions, and were less likely to agree with the future avoidance statement. There were some differences in fear based on gender, but high sensation seeking was not related to gender. Finally, a small correlation existed between frequency of visits and positive emotions.

One of the relationships of interest in this study pertains to whether individuals experience stress based on wilderness accident exposure. In a recent article, Powell (2007) outlined factors that he believes influence risk and risk-taking perceptions, including the types and mental availability of events experienced by a person, whether information from those events supports the beliefs or values the person associates with the activity, and the significance of information. He also indicated that these factors can serve as biases to the reality of risk, leading to overconfidence and misjudgment. The definition used by Lazarus and Folkman (1984) is noted on p. 27. I have simplified and narrowed it for the purposes of

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this study. Stress is intended to refer to any situation, feeling, or encounter appraised as harm/loss or threat that causes distress or is disturbing to individuals as a direct or indirect result of the accident.

Personal and Situational Factors. Similarly, the stress-coping model includes influencing factors. There are two factors believed to influence the appraisal process. One of these is described as factors relevant to the person. Conditions of the person are also considered to be an influential factor in moderating or predicting stress. Lazarus and Folkman (1984) believe that the commitments and beliefs of individuals are the most important factors that affect cognitive appraisals. Commitments and beliefs represent both motivations and what is important to the individual, in addition to further influencing choices. A belief that is of particular importance to stress appraisal is the belief about personal control. In their explanation of commitment, Lazurus and Launier (1978) provide several explanations for how commitment is related to stress or vulnerability. Lower levels of commitment in performance-based situations might lead to a weaker perception of threat. Feelings of inadequacy and lack of confidence in a situation perceived as dangerous might lead to high stress appraisals. Individuals with more confidence and access to resources might have lower stress appraisal in the same situation (Lazarus & Launier, 1978). Folkman (1985) stated, "any encounter that involves a strongly held commitment will be evaluated as significant with respect to well-being to the extent that the expected outcome harms or threatens that commitment" (p. 841).

The second factor that influences stress appraisal is termed situational. Situational factors include properties that would make situations seem harmful, dangerous, threatening,

or challenging (Lazarus & Folkman, 1984). The factors include novelty, predictability, and event uncertainty. A novel situation will not elicit threat appraisal unless it has somehow been previously connected (i.e., reading or conversations with friends) with harm. Predictability deals with a sense or preparatory response to harm and the assumed control of the situation. Event uncertainty is analogous to probability. Folkman and Lazarus (1984) also include three temporal situational factors that include imminence, duration, and temporal uncertainty. Imminence deals with the amount of time before the event or interval during which the event is anticipated. For example, an individual may hear about a wilderness accident that occurred on the very route he or she will use in the future. According to Folkman and Lazarus (1984), the longer the time period between the accident and future participation, the less intense the appraisal will be. Other temporal factors include the duration of the event (i.e., an ongoing evacuation that lasts several days) and temporal uncertainty. Temporal uncertainty might include a belief that equates more time spent in the outdoors with higher probabilities or the inevitability of an accident. Finally, situational ambiguity refers to lack of situational clarity pertaining to all of the aforementioned factors.

In summary, Lazarus and Folkman (1984) stated that the definition of stress "emphasizes the relationship between the person and the environment, which takes into account characteristics of the person on the one hand, and the nature of the environmental event on the other" (p. 21). The situational factors of person and environment should not be viewed in isolation but as factors that work interdependently with one another and which are influential in judging whether something of importance is at stake in an encounter.

Personal Factors and Stress Appraisal. The original personal variables included in the stress-coping model included values, commitments, goals, and general beliefs (Lazarus & Folkman, 1987). *General beliefs* were further described as self-esteem, mastery, sense of control, interpersonal trust, and existential beliefs. In previous leisure-related studies, personal factors have been conceptualized based on experience-use history (Schuster, Hammit, & Moore, 2003, 2007); social support (Schuster, Hammit, & Moore, 2003); place attachment (Peden & Schuster, 2008; Wang & Chang, 2010); and motivation (Peden & Schuster, 2004; Schneider & Stanis, 2007a). In particular, Schneider and Stanis (2007a) drew parallels with situational factors relevant to the person and the inclusion of measures of commitment.

The significance of commitment in this study pertains to the relationship between characteristics of the person and stress appraisal. It is also predicted that commitment will moderate at all levels of the stress-appraisal process. As such, a working hypothesis I have is there will be variation among recreationists in the way stress is appraised, the predominant coping strategies used, and future participation.

Level of Investment. For the purpose of this study, level of investment is a broad term that encompasses a variety of behavioral, psychological, and cognitive characteristics described in both the *serious leisure* and *specialization* frameworks. Both of these constructs are based on similar ideas that leisure pursuits can become central to participants' lives personified by behaviors and attitudes (Scott, 2012). In addition, both constructs infer a type of participation in intense forms of leisure (Scott & Shafer, 2001).

Stebbins's notion of *serious leisure* is similar in connotation and is (1992) defined as "the systematic pursuit of an amateur, hobbyist, or volunteer activity that is sufficiently substantial and interesting for the participant to find a career there in the acquisition and expression of its special skills and knowledge" (p. 3). The six characteristics that describe a serious participant are perseverance, careers, personal effort, durable benefits, ethos, and identification. There are several categories of leisure participants (i.e., casual, volunteer, and project-based), but of interest here are those that would qualify as amateurs or hobbyists (Stebbins, 2007). An amateur is an individual who specializes in an activity that has a professional counterpart (Stebbins, 1992). Amateurs will often compare themselves to the professional standard. According to Stebbins (1992), there are four types of hobbyists. The category of interest in this study is that of a hobbyist or devotee hobbyist. Stebbins (1992) defined *hobby* as "…a specialized pursuits beyond one's occupation, a pursuits that one finds particularly interesting and enjoyable because of its durable benefits" (p. 10).

Serious leisure research has been both ethnographic and quantitative in nature. Some of the predominant relationships or characteristics that have been studied include social worlds (Scott & Godbey, 1994); career contingencies or leisure careers (Bartram, 2001; Kane & Zink, 2004; Stebbins, 2005); costs and rewards (Jones, 2010; Lamont, Kennelly, & Moyle, 2014; Major, 2001; Lee & Scott, 2006); gender (Dilley & Scraton, 2010); negotiation (McQuarrie & Jackson, 1996); and destination preferences and travel behavior (Barbieri & Sotomayor, 2013).

Shen and Yarnal (2010) put forth two ideas for consideration pertaining to serious leisure construct. They hypothesized that serious and casual leisure shared more similarities than originally proposed. They also advocated for conceptualizing serious leisure as a

continuum rather than a dichotomy. At one extreme, serious leisure participants are believed to bring work-like attitudes and behaviors to participation at the neglect of other activities and areas of life. Casual leisure participants, on the other hand, might be described as dabblers and exempt from some of the special rewards and benefits unique to serious leisure (Stebbins, 1992). Shen and Yarnal (2010) offered this recommendation based on their own research with women participants in the Red Hat Society–a social organization that exists to provide encouragement to women in many areas of their lives. They concluded that many members reported characteristics associated with seriousness while participating in a casual activity. Scott and Godbey (1992) discovered that in the case of contract bridge, participants formed around four distinct social worlds rather than along a continuum. Some participants made a conscious decision to remain casual but exhibited commitment toward participation.

Where the serious leisure construct in its inception might have fallen short in accounting for variation in its characteristics, a similar construct, *recreation specialization*, succeeded. Specialization is a term proposed by Bryan (1979) in an attempt to explain the varying demands on resource managers based on differences in recreation behavior. Bryan's theory was based on the idea that recreationists would progress along a continuum in a developmental manner. Varying degrees of specialization are unique to each activity but coalesced consistently around the areas of equipment, skills, preferences, behaviors, and meaning. His research on a variety of outdoor recreation activities produced activity-specific typologies or categories to show progression from casual to specific. An individual may move from a more exploratory, playful approach to one that is competitive and at a level perceived by self or others as highly esteemed. Based on his research, Bryan (1979) provided a continuum for low to high specialists in the following outdoor recreation pursuits:

photography, hiking and backpacking, mountain climbing, skiing, fishing, bird watching, hunting, and canoeing.

The predictable nature of progression has been debated in recent studies. It is more often the case that the majority of outdoor-recreation participants do not progress to high levels (Scott and Godbey, 1992), and in some cases it is a decision recreationists make due to a variety of factors in their lives (Kuentzel, 2012). For this reason, Kuentzel refers to specialization as a theory of change.

Bryan (2001) acknowledged that there were reasons that would explain why an individual would not progress. He also described how a recreationist could progress in terms of equipment (e.g., dressing the part or buying the latest equipment) and skills (e.g., accessibility of training) but lack in certain behaviors, attitudes, and internalized orientation to the activity that accumulate over time. Recreational specialization provides an explanation of why recreationists participating in the same activity can have diverse expectations or experiences. The construct also provides a framework (e.g., categories) in which to organize these differences (Bryan, 1979).

One of the difficulties of the specialization framework is the lack of uniformity in measurement (Manning, 2011; Scott & Shafer, 2001). Manning (2011) refers to Little (1976) and McIntyre and Pigram's (1992) contribution in identifying the components of the recreation specialization framework. Recreation specialization is made up of behavioral, psychological, and cognitive components. A behavioral commitment is marked by experience, equipment, and setting preferences. A psychological component will be evident by an individual's involvement and commitment and by the centrality of the recreation in one's life. The cognitive component is made up of knowledge, skills, and expertise in an

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activity (Manning, 2011). Scott and Shafer (2001) suggested that specialization entails behavioral indicators, skills and knowledge, and personal and behavioral commitment.

Studies on recreation specialization have treated the construct as an independent variable. To this end, the construct has been used to predict user conflicts in wilderness settings (Kuentzel & McDonald, 1992); attitudes and preferences (McIntyre & Pigram, 1992; Shafer and Hammitt, 1995; Ewert & Hollenhorst, 1994); social worlds (Scott & Godbey, 1994); costs and benefits (Lee & Scott, 2006); career contingencies and life course events (Scott & Lee, 2010); and leisure capital (Backlund & Kuentzel, 2013).

In many studies, specialization and serious leisure have been empirically and conceptually linked (Kuentzel, 2012; Lee & Scott, 2013; Scott, 2012; Scott and Lee, 2010; Stebbins, 2012). According to Lee and Scott (2013), the constructs may be measuring the same thing and share several similarities. Both perspectives, for example, emphasize the accumulation of events and memories that provide a sense of history. As individuals invest more time and are able to trace development, progression is marked by continuity and change, contingences, and turning points (Bryan, 2008). Lee and Scott (2013) also contend that both constructs share a type of sentiment that individuals feel when they pursue activities intensely and with devotion. As a result, individuals feel a sense of attachment and identification with their pursuits. A third commonality is the variation found in interests, skills, and commitment.

There are four other areas shared by both constructs that have importance to the role of investment in this study. The first area is based on commitment to the activity itself due to rewards and benefits. Stebbins (1992, 2005) referred to durable benefits, which include self-gratification along with a set of special rewards unique to each activity. This is directly

related to the way participants feel drawn to an activity or attached because of its enduring benefits. According to Bryan (1979), cumulative experiences bring about internal and external rewards that become important factors in whether someone will repeat a behavior.

A second area shared by these constructs is based on a commitment to personal or self-identity found in that pursuits. Specialization refers to the "centrality" of the activity to a person's life, and within serious leisure this same idea is referred to as a central life interest. In either case, identification is based on finding meaning and opportunities to display self-expression through emotional, physical, and intellectual efforts. Stebbins (1992) described how people who are serious about a pursuit will present themselves in terms of that pursuit and speak frequently and enthusiastically about it.

A third area of commonality is the commitment to acquiring skills and experience. Within specialization, this refers to the importance of or attachment to the skillful use of equipment. In serious leisure, this is referred to as personal effort and describes how careers and time investment bring about knowledge, training, and skill.

The final area is based on affiliations with the larger social world or sub-culture. Manning (2011) describes how individuals who are more specialized indicate stronger awareness of and adherence to rules, norms, and procedures associated with the activity. Stebbins (1992) refers to a unique ethos that evolves within or around a particular interest. Scott and Shafer (2001) proposed the use of *commitment* as an umbrella term to describe how people identify themselves with a particular leisure activity and display other affective characteristics toward particular pursuits. One example is the degree to which committed participants might become devoted to or publicly promote interests related to their activities.

A working hypothesis of this study is that level of investment will impact the stress-appraisal process.

Situational Factors and Stress Appraisal. The second factor that influences the stress-appraisal process is described as situational. Lazarus and Folkman (1984) identified "situational factors" as influential in determining whether or not an experience is stressful. Environmental variables are also believed to be causal antecedents of the stress-coping process (Lazarus & Folkman, 1987). Within the model, there are essentially four categories for properties that make events stressful or give way to the potential for threat, harm, or challenge. The first category includes novelty, probability, or event uncertainty. The second category includes temporal situational factors such as imminence, duration, and temporal uncertainty. The third category includes ambiguity. The fourth category has to do with the timing of these events during certain stages of the life cycle. The relevance to this study is based on the idea that proximity (first-hand experience versus vicarious experience) and severity (wilderness-accident exposure) are aspects contextually important in a wilderness accident that will influence the stress-appraisal process. One of the conditions of the process-oriented nature of the stress-coping theory is that individual coping responses are based on certain situational rather than trait-oriented responses (i.e., what someone usually does). Another condition of the process-oriented nature of the theory is that stress appraisal and coping are both contextual. A wilderness accident, in particular variations of severity and proximity, provides a contextual lens to investigate coping functions that are situation specific and relevant to risk-oriented recreation.

To my knowledge, no studies have considered the severity of or proximity to an accident as factors related to stress appraisal or as influential to future participation. However, Peden and Schuster (2008) employed a similar idea in a study of the relationships between experience use history, place attachment, and stress appraisal. Respondents were asked to indicate a level of intensity with each hassle identified as stressful. In another study, encounters in nature were studied based on associations with death, freedom, and a variety of positive and negative emotions (Koole and van den Berg, 2005; van den Berg & Heijne, 2005). These comparisons were made to juxtapose perceptions of cultivated and wilderness environments.

Severity. In this study, the inclusion of severity is believed to influence stress appraisal. Lazarus and Folkman (1984) explain that the conditions that determine stress are often evaluated as existing somewhere between benign and damaging. In the following paragraphs, I will provide examples of how many aspects of risk-oriented outdoor recreation are conceptualized based on a range or continuum orientation. This should not be considered the rationale for the inclusion of severity but, rather, how it and other factors are similarly considered–an orientation that is relevant to participation and risk assessment in outdoor recreation. The examples also describe the centrality of risk and accidents to certain forms of outdoor-recreation participation.

Accidents are usually described on a continuum of severity ranging from minor to severe, with the most tragic being those that result in fatalities (Williamson, 2013). Outdoor leaders are trained to make medical assessments and treatment plans based on the potential for an injury to develop from minor to life-threatening. Leaders and participants continually

assess and judge actions in outdoor environments based on the likelihood of an accident and severity of consequences (Ajango, 2000; Erpelding & Harrison, 2012). When accidents occur, descriptions found in websites, published reports, and journalistic accounts are quite detailed so individuals are able to evaluate the consequences of risk and danger.

Severity has been a variable used to predict post-traumatic stress disorder (PTSD). In one study, severity of the incident proved to have no association with the development of PTSD for patients involved in motor-vehicle accidents (Bryant & Harvey, 1994). Brewin, Andrews, and Valentine (2000) found that the severity of trauma related to crime, disaster, and motor vehicle accidents was significantly greater for combat veterans than for civilian adults.

Proximity. Another aspect relevant to wilderness exposure is the proximity to the accident. Proximity takes into consideration how close an individual is to an accident both spatially and emotionally. The premise is that accidents that are closer will seem more plausible and real as opposed to theoretical or unlikely. This, in turn, will impact the stress-appraisal process.

Exposure to an accident can be distal or proximal and come in varying degrees. The most distal form would be based on reports or news with little to no association of the individual(s) impacted. There is a good deal of media attention given to accidents and even more so when individuals are missing for multiple days (Oliver, 2006). For example, in 2006, three men went missing for over a week on Mt. Hood (NBC News, 2006), and in 2008 a group of Outward Bound participants went missing in the Sierra Nevadas (*USA Today*, 2008). In both instances, these stories received national coverage spanning many days. News about accidents can come in the form of word-of-mouth passed on because of common

involvement in social worlds. In popular high-profile climbing or mountaineering areas, word of accidents travels fast. Due to the availability of technology, guides and climbers on Makalu, a neighboring mountain to Mt. Everest, knew almost immediately of the ice-fall incident that claimed the lives of 16 Sherpa guides in 2014. Individuals who are in close proximity at the time of an accident may be merely bystanders or may be called upon to play a role in incident response.

There are other ways to experience exposure to accidents. *Outside Magazine*, *Rock and Ice*, and reoccurring newsletters *American Alpine Club* and *Accidents in North American Mountaineering* all center around wilderness recreation and each devotes a considerable amount of space in their respective publications to accidents and deaths. Websites like *Explorer's Web* and blogs created by guide companies in the Polar Regions and the Himalayas, for instance, make all of this information virtually at anyone's fingertips and in real time. The most proximal form of exposure would occur when individuals are injured or part of a team that experiences an accident.

 It is probable that accidents which seem more proximal and severe would have greater impact on the stress-appraisal process. According to Lazarus and Launier (1978), stress appraisal is about perceptions of threat. Threat depends on whether a situation seems taxing or not and whether the resources needed to manage it are strong or weak. The combination of wilderness-accident exposure and level of investment are factors believed relevant to the appraisal process.

The following sections will briefly describe the remaining areas of the stress-coping model. Any research specific to each of the model components will also be presented. After each component of the model is described, I will follow up with its significance to this

particular research problem. I will then describe how variations in *seriousness* or

specialization, captured collectively in the term "level of investment," might influence the

model area. A working hypothesis of this study is that accident exposure (e.g., severity and

proximity) will impact the stress-appraisal process.

Coping

The next part of the stress-coping model pertains to how people cope (Lazarus &

Folkman, 1986). Coping is conceptualized as "the person's constantly changing cognitive

and behavioral efforts to manage specific external and/or internal demands that are appraised

as taxing or exceeding the person's resources" (Lazarus & Folkman, 1984, p. 141).

According to Lazarus and Folkman, coping is comprised of four parts, two of which will be

presented here. The first pertains to the functions of coping. Broadly speaking, coping

strategies are conceptualized as emotion-focused strategies aimed at managing emotional

distress and problem-focused strategies, which entail dealing with the troubled person-

environment relationship. Coping takes into consideration all behavioral and cognitive efforts

regardless of effectiveness and includes minimizing, avoiding, tolerating, and accepting.

Lazarus and Folkman (1986) contended that both emotion- and problem-focused coping can

serve both problem areas. The original WOCQ included four categories: information search,

direct actions, inhibition of action, and intrapsychic. The use of the scale involved

respondents identifying a recent stressful encounter and further indicating if and to what

degree they utilized each of the four coping functions (Lazarus & Launier, 1978).

A second part of coping is based on a process orientation (Lazarus & Folkman, 1984).

A process orientation means that coping is considered across several encounters and across

time. In addition, context is deemed very important. Lazarus and Folkman (1984) emphasized specificity by stating that "the more narrowly defined the context, the easier it is to link a particular coping thought or act to a contextual demand" (p. 142). In addition, a coping process suggests change in thoughts and actions–shifts in either coping efforts or the environment lead to a re-evaluation or re-appraisal. Finally, the duration of the coping process can range from a few moments to as long as weeks, months, and years. Researchers theorized at an early stage that stress appraised as changeable would be associated with problem-focused coping, whereas stress appraised as requiring acceptance would be associated with emotion-focused coping (Lazarus & Launier, 1978). Later, Lazarus and Folkman (1984) believed that emotion-focused coping would be used when appraisals suggested nothing could be done to modify harmful, threatening situations, whereas problem-focused coping would be used in conditions appraised as changeable.

As the WOCQ was revised to include eight categories, coping varied based on what was at stake (Folkman et al., 1986). In a study examining the relationships between primary appraisal of stakes and coping, the predominant coping strategies used in high-stake conditions were self-control, escape-avoidance, and seeking social support. In addition, using factor analysis, all six measures of stake were significant, the two highest being "own physical well-being" and "self-esteem." Within outdoor recreation, Schneider and Stanis (2007) advocated for the usefulness of the WOCQ because it takes into account the multidimensionality of coping.

Several studies have used or referenced the coping scale based on eight categories found in Lazarus and Folkman's (1986) the revised *Ways of Coping Scale*: confrontive coping, distancing, self-control, seeking social support, accepting responsibility, escape-

avoidance, planful problem-solving, and positive reappraisal (Folkman et al., 1986; Schuster, Hammit, & Moore, 2003; Schenider & Wilhelm Stanis, 2007a). Many studies have tested hypotheses related to the relationship between coping strategies and secondary appraisal. In a 1998 study, Schneider had 1,000 visitors respond to a specific conflict incident. She used a yes-no measure for conflict perception and a 22-item coping scale. She also added six coping strategies. The coping strategy that yielded the highest percentage of use (92.5 percent) in light of conflict was "followed established rules for water behavior/trail etiquette." Results from this study revealed that 50 percent of the respondents who experienced conflict in wilderness-recreation experiences utilized distancing-focused responses rather than problem-focused. Elsewhere, Schneider (2000) observed that while Cronbach's Alpha showed the coping scale to be reliable, more work needed to be done to refine the scale due to low usage of some response items. In addition, she concluded that variation based on activity type and experience should be further examined given the lack of homogeneity amongst wilderness users.

In a similar study, the stress-coping theory was used to test a hypothesis about non-hunter appraisal and behavior (Schuseter, et al., 2006). The researchers theorized that social interaction amongst hikers and hunters would cause stress due to differing social values. This particular study hypothesized differences in either emotion- or problem-focused based on sense of control, resulting in a decreased impact of stress on the overall experience. The results from this particular study showed that the use of problem- versus emotion-focused coping depended on individual appraisal of the situation. If it was appraised as modifiable, more problem-focused coping was used. Schuster et al., also highlighted the use of both emotion- and problem-focused to meet the demands of the situation.

Within outdoor recreation literature, coping strategies have been measured in a variety of ways and have seemed to provide variation to the way past recreation research has categorized recreation response to conflict (Schneider, 2000). Three common responses to recreation crowding include product shift, rationalization, and displacement (Schneider, 2000; Schneider & Hammitt, 1995). Product shift entails not only a change in behavior but a change in definition of experiences within a recreation area. Rationalization is rooted in cognitive dissonance theory in which an individual makes efforts to think positively about a particular situation. When users find social, managerial, or resource conditions so unfavorable and unacceptable that they leave, then displacement occurs. Displacement also involves substitution in that users can find a replacement setting.

In Miller and McCool's (2003) study on detractors in an outdoor-recreation setting, factor analysis revealed six main categories for coping: resource substitution, temporal substitution, absolute displacement, cognitive adjustment, environmental change, and reflective substitution. In the first five of the six categories, some change in behavior was made based on the situation or activity. In the final category, designated as reflective substitution, the authors described how participants used a variety of methods, including change in recreational behavior, sense of reflection, cognitive adjustment, and reliance on group members or the group process. There was, however, low factor-loading and a low Cronbach's alpha.

Most of the literature that gives evidence toward the type of coping strategies used in the aftermaths of an accident in outdoor-recreation settings is anecdotal or in narrative format. To my knowledge, no efforts have been made to categorize coping or place coping mechanisms within dimensions for recreationists' participation in risk-related outdoor

recreation. Wu (2012), however, interviewed significant others, family members, and friends of high-altitude mountaineers to determine what coping strategies they used to handle the stress they endured during expeditions. First, the author concluded that the emotions of family and friends were often inconsistent. For instance, family and friends felt admiration at the same time they felt fear. Wu identified four categories of coping that individuals used during their friends and family's high-altitude mountaineering expeditions: (1) denial, (2) religious beliefs, (3) self-care, and (4) seeking information. Denial included beliefs that mountaineers were competent and had been well trained. Family members of mountaineers would offer symbolic items to the mountaineers to carry with them on their trip and relied on prayer during the expedition. Family members would also seek out the support of friends and re-direct energy to focus on family responsibilities. Finally, participants in this study reported that they relied on the communication made possible through the Internet and satellite phones to keep up with expedition progress. However, Wu reported that the use of technology for communication with and about the mountaineers was helpful and stressful at the same time. For instance, news of a death coming from a different climbing party would cause stress levels to soar. The findings of this study revealed how coping mechanisms used by family and friends of high-altitude mountaineers were quite similar to those of family members of deployed soldiers. One distinction made by Wu was that injuries or death could be vindicated in the case of a war and were supported by a variety of support resources, whereas in the case of high-altitude mountaineering, the purpose of the activity is less esteemed and without formal support systems.

    According to Lazarus and Folkman (1984), "…the ways people actually cope also depend heavily on the resources that are available to them and the constraints that inhibit use

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of these resources in the context of the specific encounter" (p. 158). They describe resources, in part, to include the availability and use of competencies and knowledge. More specifically, resources serve as more than a buffering process, but also as factors that both precede and influence coping to ultimately mediate stress. The five major categories of resources that are properties of the person are: (1) healthy and energy; (2) positive beliefs (i.e., outcomes that are controllable, power to affects outcomes, positive beliefs about God); (3) problem-solving competencies; (4) social skills; and (5) material resources.

As noted previously, level of investment was used in this study as a cover term to describe variations in seriousness or specialization. Based on an understanding of the role of resources in determining coping mechanisms, higher levels of investment can be viewed as resources that, in turn, can aid in understanding why some individuals may interpret a wilderness accident as a challenge or benign rather than a threat. Much like stress appraisal, it is believed that a relationship exists between level of investment and coping. These ideas were briefly explored.

First, a highly invested individual may rely heavily on accident analysis. He or she may make efforts to understand the objective and subjective factors that contributed to the accident. This kind of knowledge would provide the person with even greater confidence that he or she could make better or different decisions and/or use better judgment. Within the WOCQ, this is most similar to what Lazarus and Folkman refer to as "planful" problem-solving. For instance, one measure reads "came up with a couple of different solutions to the problem" (Folkman et al., 1986, p. 996). In addition, highly committed individuals may weigh the pros and cons related to future participation as a form of coping. The rewards and benefits an individual receives may allow him or her to rationalize or reconcile the risks. This

idea is most similar to the coping categories of positive *reappraisal* (e.g., rediscovered what was most important) and *accepting responsibility*. Within this scale, an individual may fully recognize that accidents and risk are a fundamental reality inherent to certain outdoor-recreation activities and make a choice to nevertheless participate.

Investments and strong personal and behavioral affiliation are also characteristics of commitment and may also provide support resources for coping. Individuals may rely heavily on others who share similar interest and knowledge to discuss varying details of the accidents. Within the WOCQ, this is called "Seeking Social Support." A measure reads "talked to someone to find out more about the situation." In addition, individuals who are strongly affiliated with a group might make efforts to protect the image of the larger sub-culture based on loyalty. As such, they may distance themselves (make light of the situation) or use coping mechanisms directed toward self-control. A measure from this category reads "kept others from knowing how bad things were." It is not unforeseeable that even highly committed individuals will incorporate some coping functions aimed at regulation of emotions. An example from the scale includes measures of escape avoidance.

Stebbins (1992) referred to a unique ethos that evolves within or around a particular interest. In a similar fashion, Bryan (1979) described a social world as "…a group of fellow sportsmen holding similar attitudes, beliefs, and ideologies, engaging in similar behavior, and having a sense of group identification" (p. 45). This is of particular interest to the possible coping strategies that recreationists might use in a situation appraised as stressful. Davidson (2012) found that many of the New Zealand mountaineers he interviewed felt misunderstood by those outside of the climbing world and, as such, would present their pursuits as safe and focus on a sort of risk that is calculated and manageable. Hardt (2000) described the

speculation, distortion of facts, conflicting information, and lack of technical knowledge from media reporting that is difficult for participants to repeatedly hear. Hicks (2000) conveyed how a participant faced stigmatization and painful reminders of the past when there are legal ramifications from an accident. Lyng (1990) described how "edgeworkers," a term denoting voluntary risk taking, form an elitist orientation, which creates solidarity not just toward one particular pursuit but can transcend to include similar forms of edgework as well. The specialization framework, as presented by Ditton, Loomis, and Choi (2004), makes a comparison between *strangers* who are conceptualized as superficial and detached from *insiders* who are highly specialized and committed to their subculture.

Characteristics of this theme and others portrayed by commitment may explain, in part, the rationale for the types of coping strategies utilized. In summary, a more specialized or skilled participant will likely have more knowledge or competence upon which to draw to combat or deal with stress. He or she may be able to understand and put into perspective contributing factors to the accident. A more committed participant will likely have accumulated more experiences and may become hardened or be able to detach self from the effects of risks and risk consequences. For example, specific training in risk management, incident response, or wilderness emergency medicine may provide individuals with specific skill sets that make accidents seem less stressful.

In the event individuals do feel stress, it may be partially explained because an accident threatens a variety of commitments. Individuals could feel as if their identities found within the activity or the meaning they attribute to the activity is threatened, thus inducing stress. A question guiding this study is what influence does level of investment have on the coping functions utilized based on wilderness-accident exposure? A working hypothesis was

that higher levels of investment will lead participants to employ coping strategies that will lead to continued participation.

Outcomes

Lazarus and Folkman (1984) made a clear distinction between coping functions and coping outcomes. They described coping functions as those directed toward serving a process, whereas outcomes refer to the effect of those strategies. In the final stage of the stress-coping model, there are immediate and long-term effects or short and long-term outcomes. According to Lazarus and Folkman (1986), coping affects are judged based on stable adaptational outcomes. They posited that emotion-focused coping is more stable than problem-focused coping because the latter method tends to vary based on encounters. There are several short-term indicators related to long-term effects, which include functioning in work and social life, morale or life satisfaction, and somatic or physical health. Appraisal and coping are important in that they affect adaptational outcomes and, as such, how people evaluate and cope with stress is related to quality of life. According to Lazarus and Folkman (1984), outcomes of stressful encounters include effective, affective, and physiological components.

In the context of constraint and negotiation, Schneider and Stanis (2007) contended that short-term outcomes (e.g., changes in activity participation and preferences) continue to be the focus of leisure constraint and negotiation research. They further suggested that long-term outcomes of constraint negotiation remain unknown. An outcome of interest in this study pertains to social function and morale/life satisfaction. Social function can be understood in terms of how individuals fulfill their roles as parent, spouse, and/or employee

(Lazarus & Folkman, 1984). Social function is also understood psychologically as it relates to interpersonal relationships as well as requisite skills. In this particular study, an aspect of social function can be further narrowed to an individual's leisure functioning. Morale entails how people feel about themselves and their condition in life. Lazarus and Folkman (1984) describe how initial emotions based on momentary evaluations of an encounter (e.g., happiness/unhappiness or hope/fear) are comparable to a more enduring morale. They stated,

> From the perspective of stress and coping theory, the key questions concern how appraisal and coping processes affect positive and negative emotion, or subjective well-being, in a specific stressful encounter, as well as the relationship between well-being in the short-run encounter and morale over the long run. (p.195)

There are three areas of leisure functioning of interest in this study. These include the status or social function of interpersonal relationships associated with a particular stressful encounter–specifically the relationships of party or group members involved in an accident. Group development and the deep relationships that are forged through risk-related outdoor recreation often embody the central desired outcome or goal of these types of experiences and are frequently used to promote experiences. Lazarus and Folkman (1984) described how a person's environment influences social functioning. More specifically, a wilderness or risk-recreation environment would somewhat determine relevant relationship, including the functions, experience, and expressions of those relationships. They also noted that social relationships are developed, altered, and maintained through encounters of daily living–outdoor recreation participation being an example of one of those activities.

A second area of leisure function includes perceptions about the use of judgment as a manifestation of perceived knowledge. Reflections on judgment are included because of the

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repeated occurrence in the literature pertaining to decision-making, risk assessment, and outdoor-adventure accidents (Drury, Bonney, Berman, & Wagstaff, 2005; Leemon & Erickson, 2000; Wagstaff & Cashel, 2001; Harvey, 1999). Blanchard, Strong, and Ford (2007) describe how individuals attempt to link either environmental or human factors to an incident. Participants seem to rely heavily on accident analyses as a strategy in dealing with risk. The concept of judgment pertains to Blanchard, Strong, and Ford's (2007) further notion that reflection on an accident can assist in the ability to foresee, avoid, and/or react in similar situations. Individuals who are more invested may not only have the desire but more knowledge, skills, and access to information useful in forming judgment post-accident useful in negotiation. Folkman and Moskowitz (2004) linked outcomes with not only the attainment of personally significant goals but how an individual perceived personal growth after a stressful experience. The development or refinement of judgment is arguably an indicator of growth as it informs and enables future leisure behavior.

A third function includes overall leisure participation as one specific expression of quality of life. I am interested in the impacts of the wilderness accident on future leisure participation and in understanding how leisure participation changes or stays the same after a wilderness accident. If stress causes future participation to be questioned even temporarily, what does future participation look like? Does participation in risk-related recreation remain stable in terms of involvement in identical or similar scenarios to those of the accident? Do participants make changes but remain involved in some form of risk-related outdoor recreation, or are there more significant changes? Finally, risk-related recreation may be avoided all together. Schneider and Stanis (2007) noted the following about the relevance of negotiation and its comparison with long-term outcomes in the stress-coping model:

"outcomes are perhaps of greatest interest as they influence recreation experience satisfaction, benefit attainment, long-term health and subsequently customer satisfaction and leisure industry support" (p. 420).

Negotiation. None of the studies that measured stress and coping in wilderness and outdoor-recreation settings included short-term or long-term effects in their research. However, two studies measured coping based on the following categories: (1) absolute displacement, (2) temporal substitution, (3) activity substitution, (4) resource substitution, and (5) product shift (Miller & McCool, 2003; Peden & Schuester, 2008). In the negotiation literature, Jackson (2005) offered a three-category typology for the forms negotiated behavior might take that bears resemblance to the categories above. These categories represent outcomes most fitting for the research questions of this study. Jackson's (2005) categories included a reactive response that would result in no participation at all. For example, after a wilderness accident, someone might deem all outdoor risk-related activities too dangerous and cease participation. The second category is pro-active response. After a wilderness accident, someone might utilize coping mechanism and determine to continue as is or "to stay the course." Finally, and the one that encompasses a variety of options for activity or resource substitution, is participation that is altered in some manner. For instance, someone who was injured in a fall in glaciated terrain on a rope team may decide that roped travel in glaciated terrain affords too many risks but summer, non-technical mountaineering is acceptable.

Motivation, Commitment, and Negotiation. Within negotiation literature, motivation is a strong predictor of many aspects of participation. Hubbard and Mannell (2001) defined

leisure motives as "…internal psychological factors that impel people to action and that give direction to that action in the form of participation in a specific leisure activity" (p. 147). In line with Lazarus and Folkman (1984), how a person copes is partially determined by his or her commitments, which is one of the coping resources. Commitment provides a motivational property for maintaining coping. In outdoor recreation research, motivation represents a behavioral approach. Manning (2011) presented four levels or hierarchies that describe the demand for outdoor recreation activities. Level-three demands are motivations based on psychological outcomes. These motivations can include many outcomes, such as learning a new skill, desire for new experiences, risk taking, and gaining physical fitness. Manning (2011) further described how activity-specific motivations are related to attitudes, preferences, and expectations of the recreationist. Motivations may represent level-four demands based on personal benefits already realized. Level of investment, as previously described, is used to encompass aspects of specialization and seriousness. I presume it to be a mediating construct that would explain variations in motivations in spite of wilderness accidents.

Ewert (1994) studied the roles and patterns of motivations of mountain climbers with varying experience levels attempting Mt. McKinley in Alaska. His study was based on a theoretical premise that risk-seeking is goal-directed and as such is based on a variety of motivations. He also posited that there was limited empirical data available to explain the influence of experience and skill upon motivations in the risk-recreation environment. Ewert used factor analysis to identify five categories of motivational patterns: exhilaration/excitement, social aspects, image, aspects of climbing, and catharsis/escape. He also identified three experience levels: beginners, intermediates, and those deemed highly

experienced. The factor of exhilaration/excitement was common across all three experience levels, but results yielded variation in the first two factors for each group. Mountaineers deemed beginners reported aspects of climbing and image to be the strongest motivations. Intermediate climbers noted decision-making and exhilaration/excitement as important motivations, whereas the highly experienced mountaineers were most motivated by exhilaration/excitement and self-expression. According to Ewert (1994), as participants moved along a continuum of experience, motivations became more intrinsic or autotelic. One of the summarizing conclusions of his study was that motivations for participation varied based on individual experience. Following a similar line of reasoning, differences in experience may explain variations in future behavior that might exist for recreationists once they have been exposed to a wilderness accident.

One of the original suppositions of this proposed study was that wilderness-accident exposure would elicit some degree of stress and, thus, constrain leisure participation. In their presentation of a more hierarchical and process orientation toward constraints, Crawford, Jackson, and Godbey (1991) emphasized the importance of intrapersonal constraints and, more specifically, the influence toward specialization. They identified three psychological orientations that influence recreation behavior: (1) beliefs a person has about what he or she wants to do, (2) what an individual likes or wants, and (3) the degree of personal competence and abilities related to a task. In the context of negotiating beyond the stress of a wilderness accident, recreationists who are more committed will have either moved beyond any intrapersonal constraints or be more motivated to do so. A wilderness accident may serve as a stronger deterrent away from future participation for individuals who are less committed.

In constraint literature, motivation has a significant role to play in constraint negotiation–most specifically, motivation is believed to positively influence negotiation (Crawford, Jackson, & Godbey, 1991; Hubbard & Mannell, 2001; Jackson, Crawford, & Godbey, 1993; Lee & Scott, 2009; Son, Mowen, & Kerstetter, 2008). In a 2001 study, Hubbard and Mannell tested several models aimed at exploring the relationship among constraints, negotiation, and motivations and their influence on participation. Of the four models tested, the constraint-effects-mitigation model proved most adequate. In this model, motivation is an important factor in triggering negotiation efforts that lessen or offset the negative effects of constraints. In a subsequent study by Lee and Scott (2009), they introduced celebrity involvement (fandom) as a substitute indicator of motivation in the constraints-mitigation model. One hypothesis of their study was that celebrity involvement would influence negotiation strategies and frequency of participation. The results of their study showed support for this hypothesis. In both instances, celebrity involvement was positively associated with participation and efforts in constraint negotiation.

In a study of constraint negotiation in outdoor recreation, White (2008) tested similar hypotheses. He theorized that negotiation would have a positive effect on participation and that motivation would positively affect participation and negotiation. The results were statistically significant for the hypothesis that motivation would have a direct positive effect on negotiation. White's conclusions were that motivation was a strong and direct antecedent that encouraged participation and a factor that positively influenced efforts to negotiate. He also hypothesized that self-efficacy, the belief that one could successfully negotiate, would positively impact negotiation and participation. These hypotheses also were statistically significant. The idea of self-efficacy is similar to the type of knowledge and skills that are

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usually associated with highly committed recreationists and is also similar to the use of judgment in risk-related recreation. White advanced the following proposition in his discussion of his research, "…The greater people's confidence in the successful use of negotiation resources to cope with constraints, the greater the motivation, the greater the effort to negotiate, the lesser the perception of constraints, and the higher the level of participation" (p. 356).

The outcome of interest in post-wilderness accidents rests in the characteristics of leisure participation. The negotiation framework suggests that the recreationist will choose one of three paths with respect to future participation, including participation that changes, adapts, or exhibits no change. Within leisure-constraint literature, motivations are highly influential in determining negotiation and future participation. The linkages of motivation to desired personal outcomes/benefits commitment, as in the case of celebrity involvement and self-efficacy, suggest that level of investment defined in terms of serious leisure and specialization is a useful construct to investigate the effects of wilderness-accident exposure on future participation. In terms of commitment, Stebbins (1992, 2005) explained how someone approaching a pursuit seriously would persevere despite challenges, fears, or losses. In addition, serious-leisure participants display personal effort through special skills, knowledge, and training they have acquired over time. Serious leisure provides enduring benefits, self-gratification, and shared social connections. Further, as part of the serious-leisure framework, serious-leisure participants identify strongly with their pursuits. A working hypothesis of this study was that level of investment would impact future participation in risk-related recreation after a wilderness accident.

Summary

Adventure-recreation pursuits that occur in wilderness setting are growing in popularity. The potential for benefits and rewards resulting from participation remain a compelling argument for supporting all aspects of that growth. One of the unfortunate characteristics of risk-related recreation is the exposure to situations and conditions that can turn a "best moment" into "the worst." Van den Berg and Heijne (2005) believed people have fearful reactions to nature in general and describe how "…when individuals are confronted with urgent or threatening information, cognitive and physiological processes may operate in combination to generate consciously experienced, negative and/or positive emotions" (p. 263). Accidents, injuries, illnesses, and death are realities of life. The stress that results from wilderness accidents is unique in that it occurs in the context of leisure. In terms of accidents, Hunt (2000) said the only accidents that are unethical are the ones that are kept silent.

Along with a desire to continue to offer experiences that place humans in meaningful and fulfilling encounters with the natural world is a commitment from within the profession to provide as responsibly safe experiences as possible. Part of that commitment extends to include the way organizations respond to an accident—in particular client care—and the way that leisure-induced stress is understood as part of the larger leisure experience. This study contributes to the body of knowledge about constraint negotiation through the lens of stress and coping. The stress-coping theory is a useful model to explore human factors relevant to both risk and wilderness accidents.

Lazarus and Launier (1978) believed that learning how people cope with stress is relevant to morale, social functioning, and health. From an empirical and intuitive process,

they suggest it is more important than knowing the frequency with which stress is felt. Lazarus and Folkman (1984) contended that the question should not be whether stress is good or bad, and they acknowledged that not all stress is bad. They described occasions where people may grow from stress and discover adaptive resources they did not know they had. Lazarus and Launier asserted that life without some stress would be boring, while allowing for personal difference in coping with stress. The authors also suggested that coping as a tension-reduction strategy is negated for individuals who seek out risk. Rather, Lazarus and Folkman (1984) directed efforts toward the amount of stress, kind of stress, and social and personal conditions that made stress become harmful.

The stress-coping model provides a theoretical anchor from which to study an accident holistically by considering the factors that influence stress appraisal; if and how stress is felt; what coping mechanisms are utilized; and what the outcomes are in terms of continued, threatened, or adapted leisure behavior. It brings to the forefront an element of accidents in outdoor recreation and the human response that has received little attention.

The idea that people think and behave differently depending on specialization or seriousness becomes a useful framework for comparing the behaviors and knowledge of a beginner (casual) compared to someone who is specialized (highly committed). Exploring the reaction to wilderness accidents resulting from risk can further expand on research related to the casual leisure/serious leisure continuum as participants involved in accidents in wilderness adventure will likely vary on this continuum.

This dissertation is only a small step in further understanding the impacts of the wilderness accident on participants in terms of stress appraisal and coping. It will also contribute to the stress-coping literature by providing greater clarity to constraint and

negotiation literature. Moreover, knowledge concerning post-accident stress and coping will

aid managers in developing policies and practices that are better informed toward client care

and incident response.

CHAPTER III

METHODS

To compare the impacts of accidents to the stress-coping model, I used a qualitative-methods approach. A qualitative approach provided an important role and a type of interpretation that was deep and rich. It allowed for focus on the personal stories, social worlds, and accounts not possible in survey research (Creswell, Shope, Plano Clark, & Green, 2006). Manning (2011) applauded diverse research methods for studies in outdoor recreation that includes both qualitative and quantitative approaches. Jackson (2005) also advocated for qualitative inquiry to better accommodate micro and macro considerations and for greater contextual relevance.

This study was intended to give contextual significance to various components of the Lazarus and Folkman (1984) "transactional stress-coping model" as well as contribute to its applicability for use in studies in outdoor recreation settings. The qualitative approach provided a comprehensive and deep understanding of the manifestation of stress, the presence or absence of stress indicators during the appraisal process, coping mechanisms, outcomes, and future participation for recreationists exposed to wilderness accidents. My hope was that this study would contribute to the theoretical knowledge pertaining to coping and negotiation within leisure pursuits, and to knowledge about loss and the dark side of leisure.

I anticipated that the results would provide useful knowledge to managers and leaders about how to respond to clients and facilitate discussions that ease or lessen the impact of stress. Jackson (2005) stated that practical knowledge that improves policies and procedures along with knowledge about the phenomenon itself both serve as rationale for investigation.

More broadly applied, this study was based on an effort to advance what we know about how people respond to and cope with accidents within wilderness and during outdoor-recreation participation. Scientific literature suggests that individuals are impacted emotionally or psychologically from both risk and wilderness accidents, but neither had been characterized or studied extensively from the perspective of stress. Devotee hobbyists had been asked to identify disappointments, and extreme mountaineers had been asked how they deal with risk and accidents, but neither had been described or measured based on the coping scale. I did not know to what extent stress in this context would influence future participation.

Prior to this study, I had spent a significant portion of my professional career directing and designing outdoor programs. I was involved in professional associations where risk management was a central theme and had served on a variety of risk-management committees. Through these experiences, I made contacts and had affiliation with organizations that had access to outdoor-oriented participants and who shared in a commitment to understanding risk and incident response in all its complexity. To prepare for this investigation, I spent several years familiarizing myself with relevant scholarly and popular literature pertaining to risk-related outdoor recreation. At the time of this research, I was still active as a professional outdoor educator and personally involved in many wilderness-adventure pursuits. I believe this equipped me with first-hand knowledge of the impacts of wilderness accidents on myself and on others. My past experiences and familiarity with technical language provided me with an insider view that I believe enabled me to gain trust and establish rapport with my study population. I sensed that the informants felt comfortable talking with me and my expertise helped to alleviate some of the stress and exhaustion characteristic of recounting these stories. However, some informants seemed

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guarded, protective, and curious about my intentions. I sensed that this was more reflective of their individual situations and less about me as a researcher. The insider view also helped me formulate meaningful, appropriate, and relevant questions, and it equipped me in identifying useful and relevant cases. In summary, I sensed that the insider view was an advantage not only in my ability to interview and speak openly with the informants, but also in my ability to interpret the data, in particular the way in which the informants narrated and discussed information pertaining to their accidents.

The insider's view also presented some potential biases. There was a certain amount of personal meaning that I associated with outdoor-recreation activities that contained elements of risk. I understood some of the conflict between rewards and a variety of competing considerations, including potential costs to self and others. I had experienced stress in my own experiences with injuries and fatalities. I had also observed first-hand close friends struggle due to the impacts of wilderness accidents. However, prior to the execution of this study, the only formal knowledge I had about the impact of accidents within the context of wilderness-adventure participation was informed by journalistic accounts and related scholarly studies. I did not know to what extent loss or stress is felt and what coping mechanisms individuals might need, use, or be able to identify consciously or willingly. Furthermore, I did not intend to use the results of this study to advocate for or against these types of pursuits; thus, I adopted a stance of neutrality (Patton, 2002).

Participants and Sampling

I collected data through 22 in-depth, semi-structured interviews with individuals who had been exposed to one or more accidents involving risk-related recreation or outdoor

adventure pursuits. My intention was to understand and discover the lived experience (Creswell, 2007). Initially, I chose informants that I knew who had or who were likely to have experienced an accident. During initial contact with these key informants, I briefly described the study and asked them if they had experienced an accident they would describe as impactful and, if so, would they be willing to participate. These were the only two criteria used for inclusion. Remaining informants were identified or recommend by way of snowball sampling. At the conclusion of each interview, I asked each informant to suggest others they felt met the criteria for inclusion. As recommended by Creswell and Plano Clark (2006), I concluded the interviews when no new information was discovered from new informants and the data had reached saturation.

I also relied heavily on purposive sampling, which Merriam (2009) described as a method used to select a sample from which the most can be learned. I also utilized theoretical sampling. The influential factors in the stress-coping model included person and situational factors. The person factor in this study was level of investment, and the situational factors included proximity to and severity of the accident. One premise of this study was that both would moderate or influence each stage of the stress-coping mode. Therefore, it was important to interview and include individuals at varying experience levels and accident-exposure conditions. I made efforts to include a well-rounded representation of data.

I considered a variety of outdoor pursuits and included accidents varying in severity from minor to those with fatalities. I also included informants who varied in their relationship to the accident. Several participants shared about accidents that impacted family members, others about accidents that involved close friends, and some who were participating with casual acquaintances at the time. Some individuals talked about an accident that occurred

while they were serving in their role as administrators or leaders of outdoor programs. Some of the participants were bystanders who responded to an accident but had no prior relationship with the injured party. Some individuals shared about their impact based on accidents they observed or were directly a part of, and others shared about an accident that they were connected to but did not witness. Finally, there were 19 separate accidents included in the analysis, four of which were identified by multiple informants. I also made attempts to interview individuals who had varying experience levels in the activity associated with the accident. I included individuals who had experienced significant injuries, minor injuries, and who were relatively physically uninjured.

All of the informants I contacted agreed to participate in an interview. Informants ranged in age from 23 to 76 (M=42). The distance in in years from the accidents the informants described and the interviews spanned from just a few weeks to 23 years (M=7). Five informants were female, and the remaining 17 were male. All of the informants described initial exposure to the outdoors, including childhood family vacations, parental influence, school trips, or university outdoor programs. Beyond early exposure, informants' length of involvement in outdoor-adventure pursuits in adulthood ranged from three years to approximately 40 years. There are many nuances in the activities that were associated with the accidents, which made it difficult to objectively compare experience levels. For instance, someone who had a good deal of rock-climbing experience might have had less experience rock climbing at the grade of difficulty associated with the accident. In my best estimation, there were three experience levels pertaining specifically to the specific activity and conditions associated with the incident. Twelve of the informants were advanced in their skills. Four could be considered intermediate, and six were beginners. See table 1 for more

information on the informants. See table 2 for a presentation of the 15 reported accidents and the relationship of informants to those accidents. A supplemental and more detailed table is provided with participant bios in Appendix C.

Table 1

Key Informant Descriptions.

Informant	Age	Relationship to the accident	Activity involved	Scope of injuries
1	51	His wife was involved in an accident. He was off-site.	Winter mountaineering	Two fatalities
2	61	Several of his friends were involved in a fall on a snow slope. He was off-site.	Alpine climbing	Two fatalities
3	46	She and her friend were involved in an avalanche.	Winter mountaineering	One fatality
4	73	He was on-site and involved in accident on an expedition.	International adventure travel	One fatality
5	43	She was caught in an avalanche.	Backcountry skiing	Minor injuries to self
6	33	He was involved in a fall during a hike out of a remote area.	Rock climbing	Major injuries to self
7	35	His friends were involved in a fall on a steep snow slope. He was off-site.	Mountaineering	Major injuries to others One fatality to an individual involved in rescue but not part of the original team
8	35	He was involved in a fall on a steep snow slope.	Mountaineering	Major injuries to self and others One fatality to an individual involved in rescue but not part of the original team
9	52	He was on-site and witnessed a fall on a steep snow slope.	Alpine climbing	Two fatalities
10	54	He was involved in a fall on rock.	Rock climbing	Major injuries to self
11	37	He was on-site and witnessed a drowning. The victim was his friend.	Kayaking	Fatality
12	43	He was the incident commander during a fall on a steep snow slope but was off-site.	Mountaineering	Fatality
13	36	He was off-site during a fall on a steep snow slope.	Mountaineering	Fatality and several major injuries
14	40	She was involved in a rock fall accident while on rope.	Rappelling	Major injuries to self
15	39	He was involved in a slide on snow during a descent	Mountaineering	Minor injuries

Table 1 (continued)

Informant	Age	Relationship to the accident	Activity involved	Scope of injuries
16	34	She was on-site and witnessed her husband take a long fall during a hike out of a remote area.	Rock climbing	Major injury
17	39	He was on-site and witnessed a climber on a nearby route take a long fall.	Rock climbing	Extent of injuries unknown
18	48	He was on-site and witnessed a friend get caught and buried in an avalanche.	Backcountry skiing	Minor injuries
19	37	She was off-site but involved in a drowning.	Rafting	Fatality
20	34	He was on-site and witnessed his friend take a fall on a rock.	Rock climbing	Major injuries
21	32	He came upon injured climbers after a fall on a steep snow slope. He assisted in rescue.	Mountaineering	Fatality and major injuries
22	26	He was on-site and witnessed his friend take a fall on a rock.	Rock climbing	Major injuries

To further describe the informants, 17 were already fully committed and engaged at some level with the specific activity associated with the incident at the time it occurred. There might have been variation in the number of occasions of prior participation in the particular activity, but these 17 had at least cognitively committed to the pursuit associated with the incident. One individual was something of a newcomer to mountaineering, and a trip to a glaciated mountain represented his first experience on a rope team. The remaining individuals were involved in their first experience with the activity, were participating out of professional obligation, were involved in the activity because it was one part of a comprehensive course with several activities, or their incident exposure involved a level or form of involvement in which they had not yet participated.

The informants who participated in this study also varied in their relationship to the accident they shared with me. Sixteen of the 22 were directly involved and on-site at the time

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of the incident. Eight of those experienced injuries themselves. Of the 22 primary incidents

that were shared by the informants, 12 resulted in fatalities. Two informants talked about

incidents that involved family members, six talked about incidents involving close friends,

and eight shared about incidents to casual acquaintances or strangers. Four provided

secondhand accounts of incidents, and six individuals of the 22 were full-time professionals

in some related facet of outdoor recreation at the time of the incident, two of whom held

significant and more visible leadership responsibilities in their respective organizations. Nine

of the 22 informants made reference to faith or spiritual beliefs during the course of the

interview. Finally, 11 of the informants shared about their perspective of the same incident.

There were four incidents included in which multiple perspectives were given. Table 2

summarizes the 15 accident scenarios that were shared during the interviews and identifies

when multiple informants are connected to the same accident.

Table 2

Accident/Informant Relationships.

Number of accidents	Accident Type	Outdoor Pursuit	Result	Informants referencing accident
1	Avalanche	Winter Mountaineering	Fatalities (2)	1
2	Slip on Slope/Unable to Self-Arrest	Alpine Climb	Fatalities (2)	2, 4 & 9
3	Avalanche	Winter Mountaineering	Fatality	3
4	Motor Vehicle Accident	Nature Adventure Trip	Fatality	4
5	Avalanche	Backcountry skiing	Minor Injuries	5 & 18
6	Fall	Hike out from a remote climbing area	Life Threatening injuries	6 & 16
7	Fall	Mountaineering	Fatality Multiple Severe Injuries	7, 8, 12, 13 & 21
8	Fall	Rock Climbing	Severe Injury	10

Table 2 (continued)

Number of accidents	Accident Type	Outdoor Pursuit	Result	Informants referencing accident
9	Drowning	Kayaking	Fatality	11
10	Rock Fall	Rappelling	Severe Injury	14
11	Fall	Mountaineering	Minor Injuries	15
12	Fall	Rock Climbing	Injuries Unknown	17
13	Drowning	Whitewater Rafting	Fatality	19
14	Fall	Rock Climbing	Major Injuries	20
15	Fall	Rock Climbing	Major Injuries	22

Procedures

Interviews were conducted between September and December of 2014. The interviews were conducted through phone or Skype, and several were conducted in person. I used semi-structured interview questions. The interviews ranged from 45 minutes to two hours in length. I gained permission from informants to record each interview using a digital audio recorder. I also informed the participants of steps taken to ensure confidentiality both in storing and reporting of the data.

I started each interview by asking the informant to identify an accident that he or she was aware of or had been involved in that had occurred in a wilderness or outdoor setting involving risk-related recreation or outdoor-adventure pursuits. For those who had exposure to more than one accident, I encouraged them to also identify the one they felt was most impactful, although they often made brief references to others. I began each interview by asking questions related to the informant's background and prior experiences in outdoor pursuits, including the activity type associated with the accident. I then asked each informant to describe the accident to me in as much or little detail as he or she would like. After the

participants described the accident, we followed a set of questions meant to elicit information about stress, coping, and outcomes. Relevant to outcomes, the questions allowed informants to talk about how the incident had impacted them personally and in terms of their participation in outdoor recreation. The semi-structured interviews were designed to encourage informants to discuss five areas related to the research questions. A sample interview guide is included in Appendix A.

- *Wilderness Incident*—questions were guided by the situational component of influencing factors that impact stress appraisal (Lazarus & Folkman, 1984).

- *Level of Investment*—questions were guided by the personal component of influencing factors that impact stress appraisal (Lazarus & Folkman, 1984).

- *Stress Appraisals*—questions were guided by the primary and secondary appraisals components of the stress-coping model (Lazarus & Folkman, 1984), the types of loss typically associated with risk (Priest, 2000), and interpersonal and intrapersonal constraints (Hutchinson & Kleiber, 2005).

- *Coping Mechanisms*—questions were guided by emotion-focused and problem-focused coping strategies identified in the stress-coping model (Lazarus & Folkman, 1984) and coping themes noted in journalistic and scholarly literature (Coffey, 2003 & 2008; Davidson, 2012).

- *Outcomes of Future Behavior*—questions were guided by coping measures used by Miller and McCool (2003) and Jackson et al., (1993) in a three-category typology for negotiation, which includes no change, partial, or complete change to participation. In addition, the areas of interpersonal relationships relevant to the accident and judgment were considered based on

a narrowed scope of social functioning as described by Lazarus and Folkman

(1984).

To follow as closely as possible an analytic approach described by Creswell (2007), in addition to digital recording and transcription that would be included in the analysis, I took field notes and summarized them after each interview and again once all interviews were complete. I identified emerging themes, pertinent information not already considered in the interview questions, phrases or words that communicated more clearly or were easier for the informants to understand, as well as questions for inclusions/exclusion. Very little change was made to the scope of the questions throughout all of the interviews. The only change I made to the interviews was to include a question about the participants' impressions about coping efforts that they felt might have been helpful now that they were further removed from the accident. I also made efforts after each interview to reflect on my own impressions and reactions to what I had heard or how I had phrased questions to avoid any leading or biased tone to my dialogue.

Trustworthiness and Subjectivity

As already noted, I did not enter this research project without biases. I had made a commitment to neutrality. Knowing this, I relied heavily on reflexivity in order to reflect on and document my own thought processes throughout the interviews. Patton (2002) suggested using on-going introspection about how personal experiences may affect what is heard and to document those reflections. After each interview, I reflected on my questions, phrasing, and interpretation of what I heard based on my personal involvement with risk-oriented recreation. I additionally used triangulation to help eliminate any biases. The two types of

triangulation used in this study were data triangulation—which included measurements

already used in stress-coping literature—the results of prior research with stress and coping

in outdoor-recreation settings, and narratives from popular literature. I also sought feedback

from a colleague with extensive experience in qualitative research to verify my findings

(Denzin & Lincoln, 1994).

     Informants were also given opportunities to share anything they felt was relevant to

their particular situation that was not addressed in the questions, were encouraged to get in

touch with me if they needed to follow up on any aspect of the interview, and were given an

opportunity to ask questions about the study. Several informants received follow-up

questions by way of email and then these same questions were included in the remaining

interviews. Informant/member checks were included in the analysis, and any corrections

were included in the data analysis.

Analysis

I began analyzing data after the first interview and continued this process until the

interviews were complete. Creswell (2007) described the procedures for a data analysis spiral

that includes the central elements of qualitative data analysis. These included data coding,

identifying categories and themes, and presenting the results. Creswell (2007) and Maxwell

(2005) recommended reading transcripts several times prior to any other techniques

employed in analyses. After I read the first transcript, I began to highlight information in

individual descriptions that seemed important and/or that fit under the model components.

As I continued in the process, I was able to identify patterns and regularities of the type of

statements made which became codes. I then grouped the ideas identified in the open coding

together to form categories and then compared those categories with those in the stress-coping model. When appropriate and where there was consistency, these themes were grouped under the model components or categories. I also generated categories for themes that did not fit with existing literature or where new sub-categories for richer description were needed. These themes were compared to journalistic accounts, previous research, and various components of the stress/coping model proposed by Lazarus and Folkman (1984) in order to interpret based on perspectives in the literature (Creswell, 2007).

In summary, the research collection and analysis followed closely with Morse, Barrett, Mayan, and Olson's (2002) suggestions. In their article addressing verification strategies for reliable and valid qualitative research, they provided several suggestions for rigorous qualitative research that included investigator responsiveness, methodological coherence, theoretical sampling, sampling adequacy, an active analytic stance, and saturation. In addition, they discussed the importance of an appropriate sample made possible by selecting informants who represent the research topic and by means of saturation and replication. Combined, these practices meant that there would be "…sufficient data to account for all aspects of the phenomenon" (p. 18). In addition to efforts made after data collection, such as member checks and the use of outside perspectives from colleagues, they advocate for efforts to be made during data collection that support trustworthiness (Denzin & Lincoln, 1994; Morse et. al, 2002).

In addition to the methods noted above, one approach to address trustworthiness in qualitative research is through what several scholars refer to as thick descriptions. This approach ensures transferability by providing enough detail and evidence of the setting, participants, and findings that someone else would arrive at similar conclusions (Merriam,

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2009; Patton, 2002). Patton (2002) describes a thick description as one that allows others

access to the phenomenon. It was my intention to describe in as much detail as possible the

essence of what was described to me in great details. I captured the exact words and phrases

that were used by the informants when the use of long quotes or sections of narratives would

have been laborious.

CHAPTER IV

RESULTS

The purpose of this study was to examine various facets of the human response that resulted from exposure to accidents associated with participation in risk-related recreation or outdoor adventure that occurred in outdoor or wilderness settings. I used the stress-coping model proposed by Lazarus and Folkman (1984) as a theoretical guide. Within leisure research specifically, scholars have proposed and adapted this model as an alternative framework for studies on constraints and have used it in user conflict and hassle studies in outdoor recreation settings. The primary components of the model include stress, coping, and short- and long-term outcomes. The model also encompasses personal and situational factors believed to be influential in the stress appraisal and coping processes.

The primary goals of this this study included (1) discovering the scope and range of stress that resulted from exposure to a wilderness accident, (2) identifying the coping strategies outdoor recreationists used to deal with stress that resulted from accidents, (3) understanding the impact incident exposure had on outcomes related to well-being and future participation as well as social function, and (4) determining if stress resulting from exposure to a wilderness accident acted like a constraint in a manner that inhibited or prohibited a person's participation or enjoyment in the future. The model also includes personal and situational factors believed to influence the stress-appraisal process. In this study, these included an individual's level of investment in outdoor pursuits at the time of the incident, the investment in the particular activity associated with the accident, and an individual's proximity and severity to the incident. I believed that these factors would moderate or intervene at all areas of the model. Chapter IV is organized around three areas: (1) background information about the informants; (2) discussion of the parallels between the

research questions and the five major categories, themes and sub-themes that emerged in the analysis; and, (3) the results of the study.

Background and Characteristics of the Informants

I attempted to gain background information about all informants in order to fully understand them and to provide context to their individual experiences and reactions to the accident to which they were exposed. I concluded that 19 of the 22 individuals who participated in this study were highly invested in one or several risk-related or outdoor-adventure-oriented pursuits. There are two primary categories that illustrate this type of investment. The first is the meaning people associated to their participation and the degree to which their identity seemed to be wrapped up in their participation. The second category that illustrates a high level of investment is the careful consideration that the informants had given to their familial support system as well as to the risks associated with their participation. In the following paragraphs, I will describe informants based on these two categories and then point to a few differences in those individuals who seemed, in contrast, less invested at the time of the accident.

Meaning and Identity

Enjoyment and involvement in several pursuits seemed to be a way of life for the majority of the informants. They were involved in one or many pursuits that seemed central to their identity. Statements like, "It was who I was; it wasn't just what I did," accurately depicted the sentiment expressed by many. These individuals were also immersed in the corresponding social worlds that provided friendships and a sense of community. The

majority of the informants behaved and thought much like "insiders" or "regulars" rather than "strangers" or "tourists"–categories for social world participation put forth by Unruh (1979). Several other scholars have adapted his work to conceptualize and categorize other leisure behaviors, like loyalty to recreation facilities (Gahwiler & Havitz, 2009), or to distinguish casual birdwatchers from committed ones (Scott, Ditton, Stoll, & Eubanks, 2005).

During the interviews, it was not uncommon to hear evidence of habitual, integrated participation that provided informants with a sense of attachment and familiarity with not just one activity but with many that arguably offered similar rewards. Informants would often move in and out of several activities, depending on the season, particular stage of life, or merely out of convenience. They often described certain activities as logical extensions to other pursuits. For example, Informant #4 shared his outdoor recreation interests and the way they offered both similarity and variety. He said,

> Right now, my current passion is backcountry geocaching in mountainous
> settings, but that is a fairly recent one. You know, it combined all of my
> interests in mapping, navigation, and the use of a GPS with my mountain
> climbing. It was sort of the natural thing for me to gravitate to-I can continue
> my mountain alpine work and combine it with geocaching.

Informant #1 reflected on his feelings for winter alpine climbing at the time of the accident he described. Even though he hadn't participated in it as much as other activities, he was already quite invested in climbing in general and referred to it as a "really cool extension of doing summer climbing and to extend that into the winter." The manner in which Informant #5 commented about her pursuits also illustrated how many of the informants were involved

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in and enjoyed many aspects or activity types under the umbrella of outdoor adventure or risk-related recreation. She said,

> Like, if I was to choose any type of rock climbing, it would be alpine climbing, internationally, big peaks–you know, just really pretty lines. Then, skiing is probably my next favorite thing, and it's a bit more accessible, so I tend to do that more; I love skiing, anything that gets me up high in the mountains, really.

Many characterized their involvement in risk-related outdoor recreation as significant and would indicate when and how they got started or "hooked." Informant #21 referred to his introduction in outdoor adventure pursuits as a "start of a path, a very long path." Many of the informants would also identify the circumstances or individuals responsible for their early exposure to these pursuits and describe how involvement influenced a life direction, provided freedom, or made them feel "solid" and "grounded." For instance, the comments from Informant #17 illustrated the transformational nature of participation and its influence on his life direction. He said:

> I really struggled, and I think I found a little bit of inspiration and hope for the future because I had just discovered the outdoors and it took me out of a place of relative apathy and gave me something a little bit more tangible, something that I could identify with more.…It seemed to sort of put me on a track, like a vortex, a gravitational thing that just sucked me into the world of the outdoors. And from there, I got a little more into it.

Informants would use words like "love," "captivated," "passion," and "compelled" when describing what the activities meant to them. They enjoyed being associated with what they

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referred to as a "lifestyle." This lifestyle provided opportunities for fitness, adventure, movement, and connection to nature. It also gave them objectives; challenge; and opportunities to develop friendships, to be outside, to test themselves, to see the world, and to express themselves. Several of the informants described how their participation fit their personality. In particular, they appreciated the way in which it provided opportunities to express or integrate those interests toward something larger–combining interests with humanitarian or non-profit work, helping, contributing, instructing, teaching, or educating others. Informant #5's comments addressed elements of the activity as well as the way participation fulfilled other needs or offered opportunity for expression. She said,

> It's an avenue that really fills and fulfills me–working with other people, especially with these groups right now, these people with adaptive needs. I took this group up [a mountain], and it was just so powerful and it meant so much to them, and it's really, really, really sweet to be able to give that to somebody and help them with that.

These individuals had developed intimate relationships with others through their participation and, either formally or informally, were committed to introducing others to the activities that they loved. They would often express appreciation for the strengths and contributions of their recreation partners, describing how they could "depend on and count on" them. They also described a sort of gratitude for mutual interests. Informant #4 talked about the meaning and significance of relationships he had developed and fostered through shared experiences that transcended the actual activity. In reference to an extended mountaineering expedition, he said,

> You know, we never made it to the top. On summit day we had to turn back…18 days together in the mountains to go down without success, even

more in love with one another than we were when we did all of our training

together and so on.

In addition, I would describe the participation of the informants as intrinsically motivated. Bryan (1979) makes a distinction between behaviors of individuals whose motivation toward rewards transition from extrinsic to intrinsic as they progress toward recreation specialization. Informant #4 described the importance of outdoor adventure throughout his life. He said, "…that kind of zest for outdoor adventure stayed with me in sort of an unbelievable force throughout my life. I'm 73 years old now and never considered giving up. I just get excited about every day."

Many of the informants indicated that they wouldn't want to "give up any of them" and expressed appreciation and gratefulness for the uniqueness and novelty of their pursuits. Informant #9 said,

Just to go 12, 13, 14,000 feet in your own backyard…it's an amazing thing.

So now take that one step further and start going higher, to me, like I said, a

challenge. It also holds something special because you're doing something

that very few people, as a whole, ever do in their life.

All of these statements capture the importance of one or many adventure activities to the informants and to their identity. Perhaps this is best summarized by the comments of Informant #22 as he shared the meaning of his participation in rock climbing. He said, "…I don't know, it's kind of become who I am. I mean, it's kind of indistinguishable where I start and where my passion starts. They are both kind of one and the same."

Importantly, not all of the informants in this study were as invested as those described above. Three informants, while relatively engaged and genuinely interested in the outdoors,

had not acquired the same accumulation of experiences nor skill proficiency. I would describe their involvement as very much in its infancy or exploratory stage. This became clear in their description of the motivating factors for their participation, which was oriented toward fun, social interaction, approval, and belonging. One informant self-identified as a beginner, while some provided clearer demarcation between what they were– "a backpacker" –and what they weren't–"a mountaineer." Informant #7 said,

> That mountain was supposed to be kind of a practice, kind of a
>
> playground…some exposure to glaciers, some exposure to being roped up,
>
> probably some crevasse practice. Summiting it was another mountain. I was
>
> under the impression it was really supposed to be more of a playground, more
>
> of an experience… camping, mountaineering with folks that I've never ever
>
> been out with.

His comments illustrated his orientation toward a fun, lighthearted, and exploratory type of trip. Informant #8 was making attempts to take his prior experiences in mountaineering to the next level and described his motivations in doing so. He said,

> My friend and I had a conversation, and that conversation was, "Hey, I think
>
> that it would be good for our climbing relationship"—because I depended on
>
> him for a lot, for really everything–logistics–and, you know, what we are
>
> doing. I was just, hey, let's go. Like, where do we need to start climbing–and
>
> so, his whole kind of idea was, "Hey, why don't we…I want to climb as
>
> equals, not as I'm the more experienced guy. So I think it would be good for
>
> you to get some experience outside of me and climb without me so that you
>
> can learn more." And so it was kind of serendipitous in that fact that right

after that, I come back and I'm working out and I got approached in the gym

by a well-known climber in town. And he said, "Hey, I'm looking to put this

trip together to climb." And so, I mean, I was blown away. I mean, I kind

of…I've always, really…I had a man crush on the guy because of what he had

accomplished. And I was like what a better opportunity? My friend just tells

me, you know, that I need to climb with some other folks and so then I come

back [home] and I'm talking with…I'm doing my thing and a guy approaches

me and says, "Do you want to go climb?"

His comments seem to indicate a motivation based on the influence of a friend and, to some

degree, the novelty of the peak more so than intrinsic motivations. Informant #13 alluded to

this type of distinction by referring to a "pure" climber as opposed to someone who was not.

Support and Risk Perceptions Prior to the Accident

Support. I asked informants about their support from family and friends at the time of the

accident they described. In terms of family, some informants felt a great deal of support and

others felt very little. Several informants expressed that while they did have support from

family and friends, there was concern for their safety. One participant said, "…they

recognize the danger of the fall more than they understand what it's actually about for me, so

they are concerned for my safety." Even those who felt that they did have great familial

support still described nuances. Parents might have wished them more feminine, to make

more money, to be more financially stable, to use a degree or education more formally, or to

expose themselves less to risk. One informant, who was also a full-time guide, referred to

himself as the "black sheep" of the family and described how a grandparent would frequently

ask when he was going to get a "real job." Almost without exception, support carried a qualifier. Many informants felt that family or close friends, while supportive, didn't fully understand what they were doing.

It seemed that these concerns for safety or varying opinions about participation expressed by family members already existed as a factor that the informants had to accept and reconcile as an element of their involvement. In some cases, it served as a wedge in those relationships. It also seemed that, for some, participation was an aspect of their lives they felt they couldn't share with their family members. Later, this became either a source of stress or factor that prohibited these family members from fully supporting or contributing to the coping process. Table 3 captures an accumulation of expressions along a spectrum of perceived support.

Risk Perceptions. I also asked informants about their perceptions about risk before the time of the accident. There was a clear distinction between the majority of informants who seemed to have at least a theoretical and realistic understanding of risk associated with their pursuit and those who did not. The responses by most of the informants led me to conclude that they were on the high end of serious or recreation specialization continuum. Not only did their responses suggest that they had devoted themselves cognitively to the concept of risk associated with their pursuits, but they also used language more indicative of people more invested and engrossed in the corresponding social world. It was common to hear phrases like "accepted the dangers," "inherent risk," or "mitigating the risks." One informant expressed it as awareness in the back of his mind for "potential for catastrophic incident."

Table 3

Continuum of Family Support.

Full	My wife has been remarkably supportive in everything I do. She's fearful. She always has tremendous concern, but she keeps that totally under control and she knows how important this stuff is to me, so she has become a partner in helping me. She'll worry herself to death when I'm on a trip, but there's absolutely no question that she's 100 percent totally supportive of everything I do.
	My mom doesn't necessarily care for it. She would send pictures. I remember one about a tree fallen on a tent that killed someone or, you know, she would get concerned. I don't think they… I don't think my mom actually knows what I do.
Supportive with a caveat	Yeah, I think they are supportive. I think they just, often in my younger years, wanted me to have a "real job," you know? And they wanted me to be more feminine…it's subtle. They are very passive-aggressive.
	I have incredibly supportive parents, but I also come from a very successful family, really driven and motivated, but I was marching to a different beat. I think there was a thought of, well, when she meets her husband–like when she meets a man, it will be fine and that's that. She will settle down and have kids.
Lack of understanding	Yeah, I mean, think they are supportive. I think you have to put that into consideration of, did my parents really know what I was doing? They had no clue what crampons are or what an ice axe is for or what kind of risks there are. They didn't understand it. I think they thought I was going on a hike.
	I've been climbing now for close to 20 years. My mom's never seen me climb. If somebody doesn't really know a lot about the sport, it's hard for them to really, like, I mean everything is sort of clouded in these weird, romantic notions promulgated by Hollywood movies and script.
Family strife	My family, for the most part, are… they struggle with it. My sister finds it very difficult. From her perspective, my friends and my climbing are more important than her and my family.
Lack of support	And later I found out that my mom was going to some kind of a family party, and they were all talking about how I'm going to get myself hurt. Which I didn't really appreciate, that I heard it second-hand from someone who was there—my little brother and … it upset me to hear them talking about that. It doesn't bother me that they don't understand, but that they don't understand and they decided that they can judge.

The majority of informants had some kind of formal training in their pursuit so, as a result,

had exposure to risk-management procedures. For some, knowledge about risk was based on

formal academic training. In addition, many had been participating long enough that they had extensive knowledge of accidents through reading accident reports or they knew friends or acquaintances who had been injured or killed. Several had leadership roles specific to risk management in prominent outdoor organizations. Informant #1 had formal academic training as well as some personal experience with accidents. When I asked him about his perceptions about risk before the accident, he said,

> That's a good question because at that point I had studied a lot about risk because I had done my master's in outdoor education, so I wasn't unversed in risk and risk assessment. But I would say probably, at that point, I had been involved in some minor climbing accidents, had heard about other people being involved in climbing accidents, and I definitely wasn't oblivious to the risk. I knew that I was participating in activities that involved risk. I probably rationalized it more than I do now as far as what the real risks were. You know, I would always say, "Well, you know… you drive a car, so you are probably taking more risk than I am climbing."

I gathered, for the most part, that informants had given careful consideration to the consequences of participation. Risk literature suggests that often adventure participants will weigh the costs against the benefits and refer to calculated risks, risks that can be managed, and the ability to mitigate risks through good practices and decisions relative to their pursuit. Informant #9's comments illustrate that kind of mindset. He said, "…we know it's there, but we also love what we do and we practice a great deal at mitigating those risks. So I would just say that everybody, including myself, we were very aware of the risks." Likewise, Informant #10 made comments about risk that illustrated how informants were able to

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identify the potential things that could go wrong in their given activity. He said, "…I feel like it's safe, even though I know in the back of my head there's a risk. My belayer might not belay me correctly or that I'll tie into the rope wrong or a bolt might come out of a rock or something like that. I know these things are a possibility." Some informants recognized the element of luck, while several suggested that driving a car was more dangerous. Informant #3's expressions captured this type of sentiment. She said,

> You know, I think there is risk in everything we do. I think it's risky to drive a car due to traffic, you know, probably more so than any of the outdoor adventures I've been in. Everything comes with a level of risk, and it's all statistical. You know, sometimes you make it and sometimes you don't. And that's how I have always perceived it.

In contrast, approximately three informants who participated in this study had less of an understanding of risks and associated consequences. For instance, Informant #8 based risk assessment off of the success of friends and acquaintances who had climbed previously incident free. In addition, one of the individuals on his particular trip had an extensive mountaineering resume and had never had to use certain rescue techniques. Informant #8 went on to describe how these factors downplayed the significance or likelihood that he would use or need rescue techniques on the climb. In terms of risk assessment, he said that at the time,

> I thought that it was manageable and minimal risk. The fact that the leader had never used these techniques once in his extensive climbing resume solidified to me, "Oh hey, this isn't going to be that big of a deal." His perspective on

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the risk of a fall was, "Like, this was–forgive me, but this was [not a difficult mountain]. Like, this isn't anything crazy and over-the-top."

I included the two categories of *support* and *risk perceptions* at the time of the incident to describe and provide insight into the perspective of those who participated in this study. In terms of risk awareness at the time of the incident, the majority of the informants indicated that they were well-informed of the risks, which suggested that their participation patterns at the time of the incident were far from haphazard. They had to consider and reconcile both the level of support they received from family and friends and be comfortable with the level of risk exposure associated with their pursuit. They were often participating in spite of a lack of support and understanding and in spite of the risks. A great deal of thought, consideration, and often sacrifice already existed in relation to their participation, which further illustrated the intentionality and level of investment of the majority of individuals who participated in this study.

Study Research Questions and Themes

During data analysis, the themes that emerged from this study naturally grouped around five major categories (see table 4). In is within these five major categories that the answers to the research questions are found. I did not feel compelled to require informants to order their responses based on the research questions driving this study. Once I gathered background information from each informant, I let them tell their stories without interruption. From there, the dialogue evolved based on what information pertinent to the research questions was not covered or addressed by his or her story.

At this point, I relied on the semi-structured interview questions which were geared towards the research questions (see appendix A). I analyzed the narrative responses with the research questions in the forefront but predominantly, stress, coping and outcomes manifested in each individual story and across all informants based on the five major thematic categories. The impact and response to the accidents situations was complex and it was my feeling that any attempt to present the results based on the research question would be disorganized, repetitive and unclear. Furthermore, it would present a disjointed picture of the accident in context of the informants' lives and the complexity of the impacts.

However, I would be remiss if I did not reintroduce the research questions and identify the connection of five major categories and subsequent themes/subthemes to the research questions. The answers to the research questions are present in all the themes and as a result, date interpretation based on the research questions required a comprehensive look across all themes. My intention is to identify relevant themes to the research questions and foreshadow the interpretation that follows in in the discussion in Chapter V.

In the following paragraphs, I will revisit each research question and identify the categories, themes and subthemes related to each research question. I will also provide a few summary statements intended to describe the relationship between categories, themes and subthemes before introducing the results in more detail with emphasis given to the voice of the informants. These statements are not intended to be exhaustive nor take the place of the discussion that follows in Chapter V, rather, it is intended to frame the presentation of the data analysis.

The following table provides a quick reference to the five major categories, themes and sub-themes that are relevant to the research questions and that will be presented in more detail in this chapter.

Table 4

Thematic Categories, Themes and Sub-themes

Thematic Categories	Themes and Sub-themes

Event Stress	1. Detailed and Contextual Story Telling
	2. Accident Stress
	    a. Intensity of the situation
	    b. Incident responder
	    c. Breakdown
	    d. Sights and sounds

Intrapersonal	1. Expression of emotions and other forms of loss
	2. Processing and making sense of the accident
	    a. Relived, replayed and imagined scenarios
	    b. Compared self to standard
	    c. Defended and questioned the actions of others
	    d. Attribution and assigning a cause

Interpersonal	1. Awareness of and sensitivity towards others 2. Lingering and unspoken issues 3. Associations with the accident 4. Talking and Sharing 5. Relational strains 6. New relationships 7. Written accounts and documentation
Stress, Coping and, Return to Participation	1. When, how and with whom 2. Re-evaluations 3. Distractions to participation 4. Return-to-site 5. Getting back into it
Outcomes	1. Relational gains 2. Change in worldview 3. Markers and shapers 4. Giving back and positive reappraisals 5. Judgment moving forward

Research Question #1: The Impact of Wilderness-accident Exposure on Stress Appraisal/Stress?

The first four categories, themes and sub-themes all describe various elements of stress that resulted from wilderness accident exposure. The first category, *event stress*, deals specifically with the accident as it unfolded and/or when these individuals first heard about or became aware of the accident. Evidence of stress became apparent as informants told their

stories or in the way they described their response to the accident in follow up interview questions. The four sub-themes under accident stress capture the common experiences of the informants. For example, in various ways, each informant suggested that his or her experience was intense or traumatic. In addition, the informants who were on-site at the time of the accident often had a role to play in responding to the situation they encountered. Care for self, for injured party members or for ensuring the safety of those uninjured were aspects of the accident events the informants described as difficult and trying. As a result, many informants pointed out or referenced the occasion when the gravity of the situation or the time when they were able to relinquish their role in accident response was over. They refer to this as the occasion they "broke down". In addition, most all of the informants provided detailed descriptions of what was seen and heard during the accident and how those "sight and sounds" impacted them.

The second category, *intrapersonal*, contains two themes. The first theme, *expression of emotions and other forms of loss*, specifically captures the range of emotions, terms and phrases used by the informants to describe his or her experience and the manner in which loss (physical, social, emotional, occupational and financial) was experienced. The second theme, *processing and making sense of the accident*, contains sub-themes that emerged in the data analysis that dealt specifically with internal and temporal stress. As a result of the accidents, many of the informants *relived, replayed and imagined the scenario* that unfolded. They also imagined different scenarios, either more favorable or in some cases worse, than the one that actually occurred. In addition, many of the informants criticized or critiqued their own actions or performance during the accident event. In most instances, they addressed their perception of what they could have done differently. More often than not,

this was based on an awareness of a performance standard associated with their pursuit. In a few instances, the informants would also point out occasions where they made a decision that was helpful. In addition, the informants seemed to experience some distress in their own efforts to *process and make sense* of the accident. On the one hand, they wanted to be loyal to other party members or the deceased and would defend the actions of these individuals. At the same time, informants would also call into question the actions of others or allude to the idea that possible mistakes were made. The sub-theme, defended and questions the actions of others, was a type of stress that seemed indicative of a kind of internal wrestling. Finally, the informants similarly described the mental efforts and processing they engaged in to identify a specific cause of the accidents.

The third category, *interpersonal*, contains seven themes. Each of these themes has some relational element. In general, the first theme, *awareness of and sensitivity towards others*, captures the manner in which the informants carried some burden or anxiety over how others were impacted as a result of the specific accident they shared about. *Lingering and unspoken issues* was a theme that emerged based on the frequent references to unresolved relational issues or questions or concerns about an accident that were felt but rarely spoken to respective party members. The third theme, *associations with the accident*, was used to denote the stress and anxiety associated with having ones name attached to an unfavorable event. Often the distress was based on media attention and was intensified when there was a fatality. Some accidents were high profile because of tight-knit recreation communities or because the individuals were well-known by others within the corresponding social world. Personal involvement in accidents caused some of the informants to feel as if their abilities or proficiency would be called into question. The fourth theme, *talking and*

sharing, specifically addresses the difficulties expressed by the informants with information sharing and the demand by outsiders for accident information. Many of the informants described some stress or pain associated with *new relationships* that inherently formed because of the nature of accidents, in particular with friends and family members of the deceased. Finally, many of the informants felt a need to document involvement and details pertaining to the accident. Many lacked information and experienced some unrest until useful accident information was gained. In other instances, informants used written statements to combat rumors or misinformation associated with the accident aftermath.

The fourth and final category related to the first research question, *return to participation*, summarized stress, anxiety, fear and other emotions specific to participation in outdoor adventure pursuits post-accident. The first theme, *when, how, and with whom*, was used to describe the frequency that informants mentioned the angst over the timing, appropriateness and manner in which he or she participated again for the first time. The significance of this increased when accidents involved fatalities or when the informants perceived some degree of blame. *Re-evaluation* was a theme related to the questions the informants raised about the merit of his or her participation in light of the accident described. Many of the informants described some time period where participation was not the same in terms of quality or enjoyment as it had been pre-accident. I referred to this as *distractions to participation*. Some informants described permanent changes in participation while for others, these distractions would come and go. The fourth theme related to stress, *return-to-site*, captures the various emotions felt when informants returned to the accident site.

Research Question #2: Coping Strategies Used to Deal with Stress?

I have already identified and briefly described the categories, themes and subthemes where the manifestation of stress was most present. During data analysis, it became apparent in other circumstances and under certain conditions, these same themes that capture situations or interactions became a source of help thus serving the coping process. As a result, I chose to leave the themes intact as they emerged and describe the instances when the theme was also relevant to coping. The rationale or purpose behind presenting coping mechanisms in the same section of stress is that I believe that these concepts are clearer and understood more fully when they are compared and contrasted next to one another rather than separate. Standalone coping themes are also organized around the most appropriate thematic category. As such, I describe and present coping mechanisms associated with the categories of *interpersonal* and *return to participation* in those corresponding sections. I contend that this approach is richer and more contextual and captures some of the complexity of the entire accident experience and the narrative constructions more than other approaches. Table 5 identifies coping themes described in this chapter.

Under the category of *intrapersonal*, the inability to assign a cause has already been described as a source of stress. As accident information became available or was resolved, correctly or incorrectly, it seemed to serve the coping process. Under the category of interpersonal, the informants frequently referenced occasions in which talking about the accident was stressful. At the same time, there were certain situations where a stressful encounter turned into a favorable experience.

Table 5

Coping Themes and Sub-themes.

Intrapersonal	1. **Processing and making sense of the accident** a. Attribution and assigning a cause
Interpersonal	1. **Talking and Sharing** 2. **New relationships** 3. **Written accounts and documentation**
Return to Participation	1. **Re-evaluations** 2. **Return-to-site** 3. **Getting back into it**

It is the description of these conversations and encounters that shed light on when talking and sharing was a helpful and positive experience. Positive or favorable conversations were shared with likeminded individuals, with those who didn't judge and with those that could confirm information or shed light on accident information. Several of the informants referenced how new relationships that evolved from accident scenarios served as painful reminders of a disturbing event also acknowledged that the connections with these individuals brought about healing and help. Finally, the informant shared information about accident documentation that was both stressful and productive. The informants were able to choose with whom they shared accident information and the outcome of those decisions. The sharing of information seemed to provide the informants with control and represented something good that resulted from a less favorable situation.

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Under the category of *return to participation*, I describe in more detail the manner in which the accident caused the informants to re-evaluate participation. In general, informants seemed to reflect on the merit or worth of participation. In addition, they also seemed to make a renewal or re-commitment to a set of rewards or benefits viewed to outweigh the negative events or the likelihood of future and related accident scenarios. When the informants were able to re-discover positive outcomes in their re-evaluation process, it served the coping process. Many had the desire and opportunity to go back to the accident site. In the process of doing so, while difficult, they were able to piece together information and in some instances, get opinions and confirmations from those they viewed as experts. This was described as a beneficial exercise. Finally, *getting back into it*, is a theme that contains references to the healing and rejuvenation that occurred when participants were fully re-engaged with adventure pursuits.

Research Question #3: Accident Impact on Future Leisure Participation?

Accident Impact on Social Functioning?

This is a two-part question that takes into consideration the impact of accident exposure to future leisure participation and social functioning. The intent of this question was to ascertain the manner in which accidents impacted long-term participation in the same or similar activities. There was not an exact time frame used to determine "long term" recreation patterns. I inquired about the informants' participation after the accident and at the time I was able to interview them. The gap between the accident and the interview date varied from informant to informant. In addition, I was interested in any relevant relationships, namely recreation partners, friends and family, and how those relationships

were impacted long term. The themes that seemed most germane to these research questions

are noted in table 6.

Table 6

Future Leisure Participation and Social Functioning Categories and Themes.
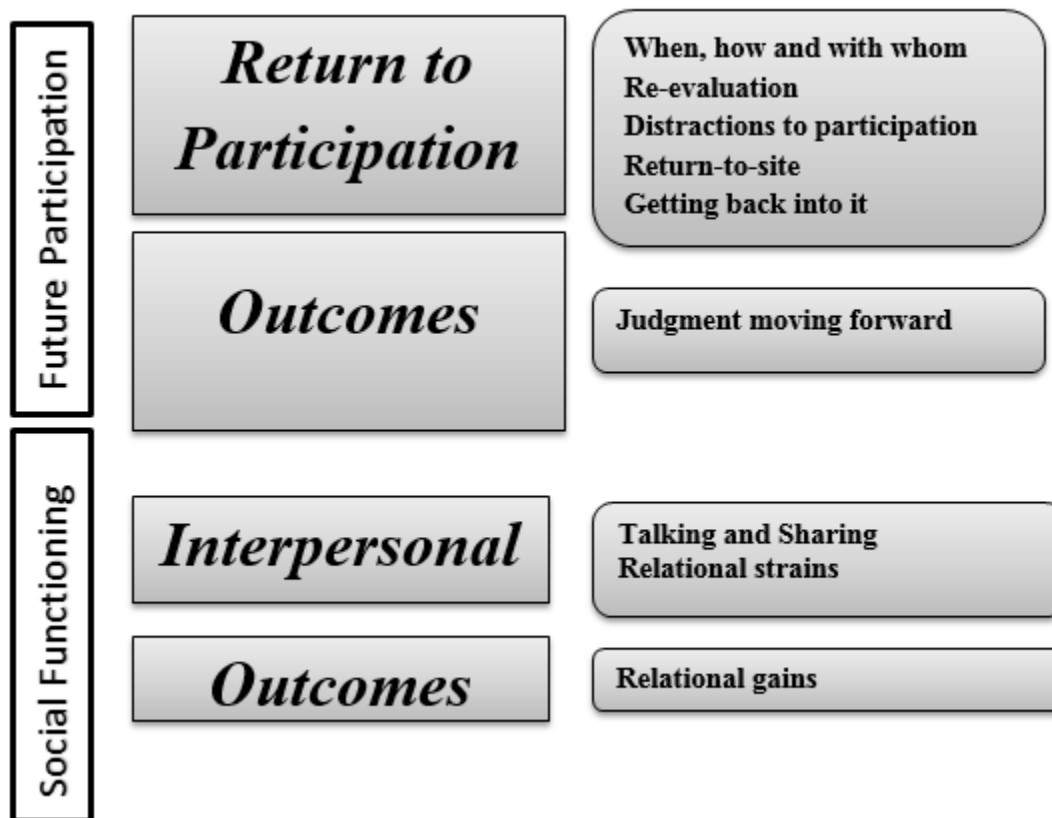
The entire *return to participation* category describes in detail the more immediate

impact to participation whereas the *judgment moving forward* theme under *outcomes* address

more long-term impacts to participation. The *interpersonal* category and the theme *talking*

and sharing as well as *relational strains* seems to address the more immediate impact to

social functioning whereas the *relational gains* theme with the *outcomes* category describes a more long-term impact to social functioning within key relationships.

Research Question #4: Influence of Level of Investments on Stress Appraisal, Coping, and Future Participation?

The intent of this research question was to compare less experienced or invested informants with those who were more experienced and invested in the areas of stress appraisal, coping and future participation. While there was some variation amongst informants in terms of experience and investment, the majority were highly engaged in a variety of outdoor pursuits. I addressed some of the differences amongst the informants based on three main areas in the background and characteristics section on page 81.   These categories included (1) meaning and identity; (2) support, and (3) risk perceptions. One limitation of this study is that only a small number of informants truly qualified as beginners. This is tricky. I would contend that some of the informants were beginners in terms of skills, abilities and acquired experience – often referred to as experience use history. On the other hand, almost all seemed emotionally and cognitively invested. This investment was threatened and differences became apparent in context of the accidents the informants shared about. There were some themes that emerged in this study that seemed most relevant to this particular research question and gave indication that some differences likely exist. This is certainly an area that deserves more research attention.

In terms of stress appraisal, certain informants indicated that while the accident they described was impactful and upsetting, they felt equipped and in a position to handle it when compared with other informants. For instance, some informants had prior training that might have prepared them for accident scenarios. On the other hand, regardless of training, all of

the informants gave indication that the accident events were traumatic. Under the *intrapersonal category*, the theme *compared self to standard* indicated that those with higher levels of training subsequently felt more pressure to perform to that standard as evidence by self-critique and reference to certain protocol. In addition, there was evidence in the *attribution and assigning* a cause theme that informants with higher levels of investment were better equipped to handle ambiguity regarding the cause of the accidents. Within the *interpersonal* category, the theme *associations with the accident* revealed that strong personal identification and perceived identification by others related to outdoor adventure exacerbated accident stress. To compare, this is a factor that beginners would not likely experience to the degree as those more highly invested.

In terms of coping, several themes indicated differences in coping resources and the usefulness of those resources. I would point the reader to themes like *talking and sharing*, *relational strains* and *written accounts and documentation* as examples. When compared to informants that were less invested, these individuals had greater access to experts who could confirm or help analyze accident scenarios. In addition, they were more likely aware of accident reporting procedures that provided an impetus to document and share their particular accounts that in turn, proved to be a helpful coping mechanism. On the other hand, more invested informants faced their own unique challenges to coping based on their connection and sensitivity to the corresponding social world. Finally, in reference to level of investment and outcomes, this question is best answered by the themes *distractions to participation* and *judgment moving forward*. Later in this chapter, I not only identify the occasions when informants chose not to participate again but I identify changes and adjustments informants made to participation when they did decide to participate again. Many of the informants

indicated that their participation had changed. I describe this as a change in quality. The narratives provided by the informants suggested that there is a profound impact when rules, standards and guidelines that form the foundation of safe and successful participation fail. Many described how they didn't trust their own judgment or the practices they had relied on in the past.

Research Question #5: Impact of Severity of and Proximity to the Accident on Stress Appraisal, Coping, and Future Participation?

This was a three part question aimed at considering accident severity and the relationship of the informant to the accident when it occurred (off-site or on-site) in determining stress, coping and future participation. There were several themes that provided context to draw some conclusions regarding the relevance of severity and proximity to this particular research question. The most prominent themes are *sights and sounds* and *incident responder*. Informants who were witnesses to these accidents were left with images and other associations that those off-site were not exposed to. There were several variables that seemed to be a play in exacerbating stress. For instance, when informants had responsibility in the survival of others and/or who witnessed a fatality first hand described more intense stress in and subsequent coping related to these factors. This was also apparent when informants who witnessed accidents described their own re-evaluation regarding future participation. First-hand experiences brought realization beyond the theoretical related to self and/or others. Based on the informants accounts, the individuals who witnessed accidents seemed to experience more long-term impacts that the injured party. I noted in the section *attribution and assigning* a cause that one related factor similar to proximity and severity was the significance of the semblance between the activity associated with the accident and the

informants own personal involvements. For instance, an informant who shared about a fatality with an alpine climb experienced distress over a loss of a friend but less distress over his future participation because he did not participate in alpine climbing. Similarly, informants made references to the cause of the accident (human or environmental) in regards to future participation.

Examination of the Impacts of the Accident

I will report results of the data analysis following the components of the stress-coping model that guided the research questions and research design of this study. I did not feel bound to present the results in this manner, but the starting point for the research questions was the accident itself. Informants provided free-flowing and often long narratives without prompting and then provided answers to specific follow-up questions–both of which naturally grouped around the components of the model.

The themes are organized under five major categories. The first category pertains to the stress associated with the accident itself and will fall under the heading of *event stress*. The second major category includes intrapersonal-oriented stressors associated with the accident and will fall under the heading of *intrapersonal*. The third category encompasses themes relevant to interpersonal stressors associated with accident. In addition, the third category includes interpersonal-oriented coping efforts. These themes will fall under the heading of *interpersonal*. The fourth category refers to stress associated with "return to participation" as well as intentional or discovered coping efforts that resulted from the informant's re-established participation after the accident. These themes will fall under the heading of *stress, coping, and return to participation*. The fifth and final category and

heading includes what is considered to be long-term *outcomes*. I will introduce the corresponding themes and subthemes for each of the major organizational categories in each respective subsection.

Finally, there was some variation in responses based on the severity of injury, proximity to the accident, relationship to the injured party, and level of investment of the individual informants, which includes those with leadership roles. I will present these differences as a compare-and-contrast in sections where they are most appropriate and relevant.

Event Stress

During each interview, I asked informants to identify and describe an accident they had been exposed to that they deemed significant and impactful. For the most part, informants treated and viewed me as an insider rather than an outsider. Several people recounted accidents many years after they occurred. For others, the accidents were recent and their impacts still very fresh. One informant had experienced his accident just a week prior to our interview. There were variations in affect during the interviews. Many of the informants seemed quite emotional during the interviews. Some openly cried, some spoke with shaky voices or would indicate when they were feeling the same type of emotion as they did at the time of the accident. Others seemed detached and almost rehearsed. One informant told me how difficult it was for her to tell the story and how she tried to do so without expression so she could accurately answer my questions–almost apologetic for not being more emotional. Others went through their stories more methodically and with fewer outward expressions of sadness or grief but remained very forthright about the impact their particular accident had on

their lives. A few informants appeared reluctant to tell the story. One was somewhat guarded or protective of the reputation of the deceased. Even though her account seemed quite detailed, she indicated that she only gave the basic information. She specifically said,

> So I told my friend Chad the story, and my husband was there and my sister was there and my parents heard the story as well. So, there are certain key people who heard the entire account of the accident. You know, I gave you the pretty bare bones minimal account, but there was a lot of…there was a lot that happened.

Later she added,

> I guess the only thing I would say is, I've tried to be really collected and cool in this interview. And I just, [sighing] I know that you say that these, that this interview is only going to be heard by you and it's going to be under lock and key and that no one has access to it and all that. But, I just want to make it known that the depth of my emotion with regard to what happened in this accident …losing my friend, it's so much greater and deeper than I can portray to you because I'm trying to have an interview with you and trying to stop the emotional …I have…I've really tried during this interview *not* to get really emotional so that I could answer your questions.

Informants varied in emotional impact from the incident. A lesser emotional response did not mean that there was not stress associated with the incident, but the accident itself was not as impactful as other interpersonal factors. One informant, in particular, seemed almost bothered that he didn't have that big life application from it all and would prefer for it not to be a standout event. He said,

My wife, she'll bring it up more regularly. And at first, I was, like, I don't

really always want to hear this recounting of or reference to this accident as a

major landmark in our lives. But I think I have accepted that it is and there's

not really anything to do about it. I've also realized that for my wife, it's

probably therapeutic to tell that story. It's probably also, in some ways,

probably therapeutic for her to just kind of acknowledge that it was a

significant event and not just ignore it.

Others seemed to want to deflect away from the negative by putting the accident in

perspective and treating it as an anomaly. My feeling is that this was in an effort to downplay

aspects of participation that are unfortunate and could be construed by an outsider as overly

dangerous or as common rather than a rare occurrence. From the informant's perspective, the

likelihood of an accident was rare and explainable. For example, Informant #11 described the

stress and impact that he and his friends experienced as more about the loss of a friend than

the association of his death with the activity. He said,

The loss of a friend, I think, impacts our relationship more than the

circumstances of that day…we had a lot of experience on the water; it wasn't

kayaking that was hard or, you know, it was…we all knew the risk. It was

more the loss of a good friend.

During the interviews, informants both alluded and openly referred to their accident

experiences as stressful and impactful. Some of the stress was immediate, given the demands

or gravity of the situation, and some of the stress was more long-term. Folkman, Lazarus,

Dunkel-Schetter, DeLongis, and Gruen (1986) suggest that stress contains an initial appraisal

of harm-loss, threat, or challenge that is evaluated based on physical, psychological, social, financial, or occupational stakes relevant to the well-being of the individual.

The accident was the root or starting point for all the other types of stress that the informants experienced and described. There are some important characteristics of their stories that I believe represent attempts to communicate the significance of the event and the stress that was directly associated with the event. My intent is to briefly describe these characteristics and the meaning behind them. During the account of the accident, along with my specific questions about the accident itself, I identified two themes under event stress. The themes were *detailed and contextual storytelling* and *situational demands.*

Detailed and Contextual Story Telling. Detailed and contextual storytelling deals specifically with the way in which the informants told the stories of their respective accidents and the categories of information that they included without prompting or focused questioning. When asked to describe the accident, informants rarely jumped right into the events of the accident but, rather, provided a backstory. In addition, they provided a significant amount of detail about the actual accident.

The backstory provided context but–more importantly, I believe–helped informants feel like that the circumstances could provide enough information that others would be more likely to understand the significance of these events as impactful and/or painful. I have already established the connection and importance of participation in outdoor-adventure pursuits for most of the informants lives. These trips or adventures did not occur in a vacuum or in isolation of other aspects of their lives. In subsequent sections, I will describe the difficulty and frustration that many of them experienced in trying to communicate and garner

understanding about their accident. The following quote captures the sentiment of so many that it is hard for those without firsthand experience to truly grasp the environmental demands. Informant #13 said the following,

> It's hard to convey to your parents or to someone who hasn't been in the mountains like that, like truly what it's like. Like, you can show a picture of a crevasse, and it's definitely not as impactful as, like, standing above a hole of one and it's big. Or, you know, you can tell people, "Hey, I was in this tent and there were 60-mile-per-hour winds and I had to get out and shovel snow in sub-artic temperatures." And [the response is], you know, "That stinks."

It seemed that it was important to the informants to provide context or paint a picture–not just of the event itself, but describe some of the complexities and intricacies as well. They included many of the intrapersonal, interpersonal, and environmental factors they faced, and the tragic or difficult turn of events. It was as if this was the method that allowed them to justify or explain the pain, the difficulties, and the life-changing nature of these singular events. I will describe some of the story characteristics in the following paragraphs.

Informants would often indicate that they wanted to provide some background information. For example, Informant #9 said,

> The first week, everything went well; it was damn windy up there, but bluebird day, absolutely gorgeous, and everything was fun. The only downside to the trip was at the end–Tim had some brand-new boots and in coming off of the mountain they really messed his feet up pretty bad, right before the next trip; I'm just trying to give you some background.

His particular narrative illustrates the need to describe the players on the trip and what would eventually become their relationship to the accident and why. More specifically, the backstory would often include information about relevant relationships, history of those relationships, motivations or impetus behind the trips, past experiences, thoughts and impressions in the time leading up to the accident, expectations, decisions that would become factors later in the accident, roles in a particular trip, and ironies of the trip or the accident, which included details about the rescue. For instance, Informant #7 described his relationship with someone that he backpacked regularly with long before he ever shared the details about the actual accident. The friend mentioned in his backstory was not involved in the accident he eventually shared, yet the inclusion of this relationship set up a comparison for the impressions of the relationships with those on the trip actually associated with the accident. He said,

> The people that I would backpack with, my best friend, he's very analytical, and very detailed-oriented, and he's a guy that I trust. Whenever I give him something and I go do something, I just know by his body language how he feels. I know by his mental…I mean, I can see when he is concerned about something.

Others would attempt to explain the significance of relationships with those involved, injured, or killed in the accident. Informant #4 reflected on his relationship with his friend Rhonda who later died. He said, "…Rhonda looked after me, for those four weeks after Donna left. We both had just profuse feelings toward one another in terms of competency for the [outdoors] and just became good friends." By accurately providing context, informants give others access to information that explains the relationship to small details that might

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have seemed inconsequential at the time but became major factors later. For instance, Informant #9's phrasing illustrates the importance informants gave to details and context. He said,

> So we, you know, getting all prepared and–how the hut system works over there, they give–and this is actually extremely important, this little piece of information that I'm telling you because it has to do with timing. What had happened–how everything is set up over there.

As noted, the backstory also included details relevant to the motivations or meaning of that particular trip or experience and/or the impetus behind the trip. Often, these trips represented significant career opportunities or marked special occasions. In other instance, one person felt more responsible because he was the "ring leader." Informants also included information about decisions that would become factors later as the accident occurred.

Another feature of the backstory was inclusion or reference to ironies. Ironies include the accident occurring on someone's birthday on a day the deceased had earlier described as the "best birthday she had ever had," or the excitement toward and purpose of a particular that trip that would then go so badly. Often these trips were symbolic for other things, such as relational milestones, a first visit to a famous area, or the starting point of a career. Whatever the case, informants associated each trip or adventure with high expectations. In other instances, the irony had to do with how young someone was or the timing of the accident based on recent accomplishments, such as graduation from a prestigious law school. Others referred to the irony of a traumatic accident in light of the relatively easy nature of the activity–a kind of negative or surprising luck. Other ironies included what seemed to be irrelevant decisions at the time that turned tragic later. Informant #4 described how he and

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friends simply wanted a seat with a window, and Informant #9 shared how his friend merely

wanted to wait on her friend to descend. Table 7 captures some of these and other common

features or components of these backstories.

Table 7

Features and Characteristics of the Backstory.

Characteristic	Quotes
Ironies	So getting on the course, I just felt like, "Well, this is it, this is the course." At the time is when I had been accepted to the course that I had always wanted to be on, so the irony is that I had gotten my full-time job right when I got the opportunity to go on the instructor course. I was able to convince them to let me take five weeks off to go on the course, and then I had my accident on day 23 of that course.
Meaning and impetus behind the trip	It's a climbing area and our plan was to spend a few days climbing and then a couple days at a bed and breakfast—just kind of that was our anniversary.
Role in the incident	I kind of been thinking/blaming myself partially for the whole thing since, you know, I was the strongest climber on the trip and I was the one who suggested the route.
Decisions or circumstances that become a factor later	I was dressed extremely warmly. I have a very good clothing system that I used on that day. And my partner was not dressed very well for the conditions, particularly to be out as long as we were. We got to a high point on the mountain where my partner was exhibiting signs of hypothermia and exhaustion.
	But what everybody else does, and what we did, we leave our packs or the majority of our gear. So we left the big climbing pack, we left our ropes, all of our other gear, we even left our helmets, which, of course, I wish we had been wearing them. And our safe kit was in that pack that we left—classic move.
	And this is actually extremely important this little piece of information that I'm telling you because it has to do with timing. What had happened —how everything is set up over there—we didn't actually get out of the hut until about 4:30 that morning.
	One of the things that I had mentioned at the time was that we knew, we knew we had a problem that we had with the brand-new rope, it being stiff, it was a pain in the ass to coil and there was just lots of problems with it in that cold in those conditions.

These backstories seem to be important because, by providing context, informants

were able to set up, explain, justify, and give relevance to not only the factors associated with

the actual accident but to explain the emotions they experienced as a result. In addition,

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different nuances of the backstory became the backdrop for what each individual had to work through and live with. They described the aspects of the accident that they have to relive, sort through, reconcile, and come to grips with or wish they could have or would have done differently. In addition, the backstories provide context and put into perspective those relationships that become the source of loss, struggle, or challenge.

When informants got to the accident itself, the accounts–much like the backstories– were extremely detailed in nature. It was clear that informants wanted to communicate information and represent the events surrounding the accident as accurately as possible– providing a sort of play-by-play. One informant referred to this level of detail as "doing the situation justice." They would describe, highlight, correct, or point out when they could have erroneous information related to length of a fall, time of day, angle of the slope, depth they were buried, water levels, exact weather or environmental conditions, or the time lapse from when the accident occurred to the time when the search and rescue team arrived. Sometimes they would remember a detail and correct something they had said earlier. For instance, Informant #18 corrected his details at one point,

> that tells me that I'm wrong about how dark it was when we skied into the
> bowl because we had enough light to find the ski, for her to put it back on, and
> for us to ski back down to the car.

During the interviews, it seemed the informants would make attempts to provide accurate accounts during their narrative reconstruction. In some instances, they told the story in a very factual manner, replaying it for me just as it occurred. In other instances, I could tell that the information was based on their reflection and perspective about it at the time we spoke. For instance, the following quote from Informant #8 shows the transition between

what he perceived to be his recall of his perspective at the time of the accident versus his

analysis at the time of the accident. He said,

> So we took a couple of pictures, and we said we're gonna hit the descent. Tim
>
> said, "Hey, Sam, I want you to take the lead." And previously I was in the
>
> back, and so he said that he wanted me to take the lead, which I thought was a
>
> little strange, but I was, like, whatever, sure I'll do that. And so we started
>
> descending what was pretty steep–in my mind it was steep. Then we were
>
> putting in pickets, and we had about…the way that I remember it was we had
>
> about 200 yards to get to where we needed to be, where I was going to have a
>
> sense of relief. I mean, I was pretty, pretty nervous. It felt a little hairy. And
>
> the question was asked, "Hey, do we want to put in another picket?" And
>
> everyone said, "No, I think we're fine. We're almost there." If we were
>
> headed straight down, I actually think that we would have had more of a
>
> chance, but because we were across I think that set us up. There wasn't a lot
>
> of choice. I think that…that's what set us up for the disaster to come.

In many cases, the informants would point out these differences. For instance, Informant #3

shared about a trip that one of his friends was killed on and said,

> and maybe it's just in retrospect that I seem to remember that I had a bad
>
> feeling about that trip, but I remember….of course now I remember really
>
> well the last time I climbed with Debbie, about a week before they left.

The informants included detailed information to address all of the factors, whether

environmental or human. For example, Informant #15, a university outdoor educator,

provided detailed information about location, weather, and other human factors right before the accident.

> It took us a long time to get to the very…the top of the ridge line where we were gonna travel … and when we got up there, we could see there was a storm coming in and we were, like, "Wow, you know, we need to, we need to move a little bit faster. Uh, cause the storm's gonna come in, in about three hours," and it was about one o'clock, in the afternoon. So it's, like primetime, you know, like weather's coming in. It's later in the day. People are low on calories. And then we had this woman that needed a little more attention, so it was an awesome mix of things that contributed to this whole problem. So as we traveled the ridge line, we got to a snow slope and a basic snow slope. I mean, it's something I'd probably slap a sled on and go down, and I was traveling in the back with the woman with the sore feet and my teaching assistant was up front with probably some of the more confident folks in our group, and they just descended the snow slope themselves and they were down at the bottom. No big deal.

I believe the detailed nature of these events suggests that informants recognized the complexity of the environment they were in, but, more importantly, they wanted others to be able to relate to all of the factors of the accident as well. It was obvious to me that these individuals had spent time thinking about, sharing, asking about, and rehearsing the details of these accidents. In following sections, I document how the need for accurate accident details is a source of stress for informants, and when those details are confirmed or made available it serves with their coping process. Even those individual who weren't on site at the time were

able to provide step-by-step descriptions of the accident, indicating their level of intimacy and interest in accident details as well. In some instances, informants would transition in and out of speaking based on their own thoughts and the thoughts of others. In order for people to understand the accident, they need access to all the details. Details give the listener consideration and perspective as to the intricacies, the many factors, and the dynamic and complex nature of the accidents they experienced.

One additional feature of the backstories related to the way the informants included and described the factors associated with the rescue. This feature is included because of how often informants would mention those factors and how detailed the information was. This part of their respective stories included events that "worked together," seemed timely, fortunate, or "ironic" that otherwise could have changed the success of the rescue. Instead of just mentioning a rescue or a helicopter evacuation, informants knew and provided detailed information about circumstances that made a certain pilot available or situations that put other emergency personnel in the "right place at the right time." Informant #6 referred to the circumstances of a "dutiful" worker who stayed at his post despite a storm as a type of "miracle" or "fortunate" part of what otherwise was a bad situation. In some cases, the ironies of rescues or ways that things worked out pointed to factors that could have made the coping associated with the accident worse. In one instance, a participant described a situation as a blessing and suggested that "in hindsight," he was glad that he and his friends didn't immediately find the deceased, knowing that they wouldn't have had the tools necessary to save him and it would have made the coping and the aftermath worse.

As would be expected, some of the expressions simply represent gratefulness and appreciation for individuals who were skilled, competent, and available. For many, these

accidents were life-and-death matters, and the timeliness of these rescues made a difference in the outcome. In other cases, I was able to make connections with the way the performance of the trained first responders or rescue workers inspired some of the informants toward related technical training, similar rescue work, or other professional causes or work. For instance, one of the informants who included details of her rescue attributes her own interest in wilderness medicine to the events surrounding her rescue. I will explain later the isolation that some of the informants felt when they were solely responsible for the lives of and care for others and the intensity that was associated with some of their scenarios. The rescues are significant in that these individuals were no longer working in isolation, and they were able to hand off some of the crucial decisions, thus relieving some of the stress and fear they were experiencing.

The detailed nature and common elements included in many of the backstories seem to suggest the significance of these events in the lives of the informants. It also suggests the level of evaluation that these individuals provided in not only the details of the actual accident but decisions made, people involved, and the need to make sense of every circumstance that may or may not have played a factor in the event itself. Furthermore, informants tell the stories as if they expect or recognize some level of judgment or evaluation from others. The idea that informants needed to make sense of the accident is a prevalent theme in the results and will be discussed in detail.

Accident Stress. The next theme, *accident stress*, deals specifically with the stress and demands that individuals felt at the time the accident was happening and their reflections after the fact. It also includes initial responses and reactions from informants who had close

ties to the accident but were off site at the time. It was clear during the interviews that individuals understood the significance, impact, and trauma associated with these accidents, even those who were not on site at the time of the accident. Informant #8 describes part of his scenario this way,

So yeah, we continue to traverse on. I don't see, but all I hear is the word "falling"– and then just a knee-jerk reaction…out like Superman. I take my axe and drive the pick into the snow, and I held on for what I felt like was eternity. But it must have just literally been [snaps fingers], I mean, in the blink of an eye. I'm pulled, like, ripped out of the side of the mountain.

What's remarkable is the amount of intensity with which the informants directly involved were exposed and had to endure to keep themselves and others safe in often life-threatening situations. Informant #3 described her situation, saying,

I had tried to text; I had tried to call; I'd tried to move him; I had tried to dig a snow shelter. All night, I walked. I tried to create tasks for myself because I knew I couldn't fall asleep or I would die, too. So I walked to and from a boulder back to my friend. I was really adamant about not letting him get covered with snow because I… I wanted them to find him.

Informants obviously felt stress at the time of the accident, and that stress remained evident in the days after as they reflected on and remembered the accident. This theme has four subthemes. The first subtheme captures the *intensity of the accident* event as felt and described by the informants. The second theme, *incident responder*, illustrates the role many of the informants played in responding, rescuing, and caring for others. A third subtheme, *breakdowns*, includes information about how and when these informants broke down and

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how they describe those occasions. The fourth subtheme details the *sights and sounds* that informants described as disturbing or distressing.

Intensity of the Accident. This theme, *intensity of the accident,* takes on several different subthemes. First, the informants frequently made comments directed at the intensity and seriousness of the accident. In many cases the seriousness or intensity of the situation was juxtaposed against what was–seconds or minutes before–a perfect experience, a great day, or a situation in which everyone was fine. They were joyful and engaged in the pursuits they loved or which they were hoping to become experts. One referred to the "hooting and hollering" that was going on based on the exceptional skiing, and another referred to himself and his companion on the assent as "bulletproof." These great moments ultimately turn tragic or have a negative "turning point." For example, Informant #21, a bystander involved in a rescue, spoke of his day this way,

> If it was just seeing some guy die, that would just be one story. But this is a…the whole story, the whole event is what makes it probably the most memorable thing in my life. Just from, first time ever climbing the ridge, to being such a beautiful day, to being then such a tragic-weather-and-crazy-wind kind of day. Just from pure bliss to pure chaos. I've never seen anything go so right and so wrong in one day.

In some cases, changing fortunes were based on close calls, as exemplified by Informant #18: "…I was still, like, well, that was really close. You know, if she'd gone the other direction, it would've been a body recovery rather than, you know, five minutes digging her out." Informant #9 described the gravity of his situation.

You see one of your friends start to slide off a mountain, then you see another friend slide off of a mountain–you're there now, alone. Right after I lost sight of Debbie, I looked–I rotated my head back to the snow, and I just stood there, and I couldn't move. It was like what just happened, didn't happen. It could not have happened. You keep telling yourself, there's no way that what you think just happened, actually happened; because it's too bad. It's impossible for that to happen, because everything was going perfectly well prior to that– nobody complained about anything; everything was going along just fine. I was talking to them every…I was telling them, "You guys are doing a great job." They were saying, "Yep, everything's fine." They're feeling good. What happened could not have happened. You go through that, I don't know, for a couple of minutes. And then, I don't…I don't know what you'd call it, but basically reality starts to set in.

In addition, informants described the intensity involved in their own fate or safety. For the most part, these were not benign and inconsequential situations. On some occasions, they were forced to process the possibility of life-threatening injuries to others while managing to keep themselves safe at the same time. Many informants had to wrestle with weighty decisions or circumstances. For some, it was the weight associated with feeling like they might die. Informant #14 said,

This is gonna screw up my whole life, and there was one time where I thought, at that first point, like if I die like…like things are good, like, everyone I love knows it….There's actually a point of just, like, total peace with it. My husband now, but was my boyfriend then, like, I just, just

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remember thinking, like, you know, Justin knows that I love him and my

parents know. But I was real…I was really calm.

For some, they recognized the weight of being a sole survivor almost immediately as they

described walking out alone without their partner. For others, it was the weight of going for

help or staying with a severely injured friend or loved one. Some informants carried the

weight of watching a friend die. Informants commonly addressed the situations they "found

themselves in" or when they started to "realize the reality of the situation."

Incident Responder. A second subtheme of accident stress includes the way many

informants were forced to turn from their role as participant or recreationist to *incident*

responder. This subtheme describes some of the specific situations that required informants

to act. The responder subtheme is less temporal in nature and illustrates the procedures or

decisions they had to make for others. Fifteen of the 22 informants had some role in

rendering aid to an injured party, and a few even made decisions and took action in their own

care. The informants made great efforts to describe these various roles. In general, they

described these situations as "complex," "traumatic," "challenging," "emotionally difficult,"

and requiring "focus." In many instances, they also required physical strength, emotional

clarity, quick thinking, and sacrifice. One informant said that there was no time for emotion

because "you can't afford to do otherwise, or you are going to make things a lot worse…at

the time, you need to have a good head on your shoulders." Sometimes individuals

experienced physical harm, injury, or pain during the incident response. Sometimes they had

to make difficult decisions in the best interest of others. One informant described how he

chose to give only the information that he thought his friend could handle, even though he

knew it wasn't accurate. He felt that his friend was not emotionally able to handle the truth about the estimated time it would take for the rescue, adding "…at least, that's the decision I made."

When in the role of incident responder, these individuals often had to make difficult phone calls to family members, give statements to the police, or remain stoic in front of other unknowing informants. On other occasions, the role of incident responder caused stress because individuals did not know what to do or felt they were working in isolation. One participant said, in retrospect of what she endured, "…it was quite amazing what we are capable of in a situation that could be outrageously emotional." The following three narratives illustrate some of the accounts of this type of response and demand.

From Informant #3,

> And then I had to make the hardest decision of my life, which was, do I stay? Do I stay here with him now? Or do I go and try to somehow get out in the dark…or would it be better to stay with him in the moments that he may really need me? It was a very, very difficult decision. I didn't have hindsight. I didn't have any information that would be clear to me to help me make that decision. It was very hard. I wasn't sure what the right decision would be, and I knew there were consequences to either decision. I didn't have the tools I needed to know that I was making the correct decision.

Informant #8 described his efforts to get to a place where he could get a call out to emergency personnel. He said,

so I took my good leg and I took my ice ax in the opposite hand, and I would

slam it in, and I would use that to lift me up, and then I used the ice axe to

prop myself up to pull myself up.

Finally, Informant #20 reflected on his own efforts. He said, "…I initially tried

carrying her and tried rigging something to carry her, but that didn't work. I made it about

100 feet through a rock talus before I realized that there was no way I was going to make five

miles doing this."

These individuals were wrestling with the reality of the situation, attempting to assess

injuries and render aid, contemplating how to get help, and considering the possible

outcomes. Later, the informants would experience further stress as they reflected on and

seemed to critique their lack of knowledge or performance during these occasions.

Breakdowns. A third subtheme in the accident stress category includes *breakdowns*.

Informants frequently referred to being "on" and then pointed out when they felt able to

break down or when they remembered breaking down. Many used the term "adrenaline" or

"focused" to describe the demands they felt during the event. They would describe how they

just "had to get through it." For instance, Informant #3 said, "…it's my responsibility to get

us out of here. I have to be strong. I have to be strong. I have to be on task to keep us moving

and get us out. And so, I didn't have a lot of time for emotion." Many informants referenced

or could pinpoint the moment when they "lost it," which usually was after they were safe or

after those they were rescuing were safe. Informant #5 said,

After skiing just a few 100 feet, I caught sight of them, and happily skied

down to them. It was super tempting to "shut down," but I had a feeling I

needed to stay "on" a bit longer. When I got to the SAR guys, I realized their

snowmobiles were stuck, and they were going to be a bit getting themselves

turned around and out. I took a few extra layers they offered me and started

shuffling out to get across the creek and up to the road for the mile ski-out. I

knew if I stopped, I would get cold fast and start unraveling. When I reached

the creek, a friend of ours on the SAR team met me and helped me up to the

road and took me back to the trailhead on his snowmobile. Sitting behind him

for the ride out, I finally let the adrenaline start to fade away.

She also shared information about an interaction with her skiing partner.

He said, "Stop! I need to make sure you're okay." I'm like, "Oh yeah, I'm

fine; my leg hurts." He just took me over to the edge of the path so I could see

the main avalanche path, and I completely came unglued. I completely lost it.

I didn't know it was so big. It was pretty sobering to see the whole thing.

Informant #9 said,

I have never been more focused in my life, and I'm a pretty focused sort of

guy. So I kept going to the right, but every single movement, picking the axe

up and putting it in–once I put it in, I made sure it was in. It took three times,

the amount of time it would take, to make sure that was in. Then I take my

right foot out and then kick a step. I did the exact same thing–make sure that

that right foot was in. I took my left foot out; I kicked a step. I made damn

sure that that left foot is secure. Take my left hand and put it down, make

damn sure my left hand is secure. I did this, for every single time–and it took a

very long time; it's mentally exhausting. You're completely wiped out–

somehow, you keep going. I made it to the ridge line over there, and I found

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some anchors. Once I got the daisy chain out and clipped into it, it's like the world, just, came off your shoulders. I'm going left and all of a sudden I look up, and I, like, I just broke out into tears because what I saw was an anchor with a double rope tied to the thing. I didn't care who it was—whose it was—I didn't care where it went to, I just saw two ropes tied together and I knew that that…that would give me at least 150 feet down.

In reflecting back on their own performance or response, many seemed surprised or taken aback by their own focus, tears or lack of tears, or the amount of adrenaline they felt. Many referenced when they "broke down and wept," how long they wept, and that the length of time between the accident and the tears was "fascinating." These moments of break down are important because they illustrate the emotional strain and the extreme highs and lows of the accident events. They also seem to account for not just the accident but all of the expectations, hopes, and ironies referenced in the informants' backstories that seem to magnify or deepen the tragic "turn of events" of their particular pursuit that day. Informant #8 said,

I remember being alone in the room, and an army officer comes to me and says…like, I actually still get emotional every time I remember. But he says, "Sam, I need to tell you something, and I would rather you hear it from me than anyone else. And so at that moment, I just lost it–not like an angry or yelling, just tears. I think there was just so much that happened that day.

Individuals who described accidents that they did not witness provided similar accounts related to how and when they heard the news and, subsequently, when they broke down for the first time. For instance, Informant #2 was not present at the time of the accident

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that killed his friend. His comments were related to when he found out and when he broke down. He said,

> I called Tim's wife, and she said she had been trying to call me at my house, but I wasn't there and told me that it was Debbie and this guy, Wayne. And so that's how I found out, and I specifically remember that Tim had called her, of course, to tell her. And he said, "When you call Paul … tell him that it wasn't Debbie's fault," and I just remember feeling, like, "Why, why do I care whose fault it was–Debbie's gone." That was the last thing that I cared about then or still care about today was whose fault it was. But, so, that's how I found out. Immediately it was, obviously, such a shock, and it took a while–I don't know how long it took. You know, I remember hugging Julie and finally breaking down and crying at some point, but I can't remember how long that took, but it was definitely that day, obviously.

Finally, Informant #19 described how she found out about an accident.

> And as I'm driving to the takeout, I hear the call on the radio that we have an emergency at such-and-such rapid and CPR is in progress. That's the call you just never want to hear, you know?

Another informant described the call as the "call you never want to get." These individuals seemed to have an intimate relationship to so many aspects of the accident, as well as insight and recall about their reaction to it.

Sights and Sounds. A fourth subtheme of accident stress includes references made to the *sights and sounds* associated with the accidents and related injuries. The mental images and

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associations of what individuals saw, along with their recollection of the way things sounded, were obvious factors and circumstances that added to the stress at the time of the accident. In addition, in many cases these images and sounds lingered or stayed with the informants long after the initial accident was over. Informants described these images and sounds to me while recounting the actual story of the accident, and they often repeated them when I asked about impacts and stress. To illustrate, Informant #9 commented about his experience with body identification.

> When we looked at Wayne's belongings, it looked like it was put through a leaf shredder. It was just cuts all over; it was just very heavily stained with blood, everywhere. When we looked at his axe, the ice axe was snapped–clean in half. The head and half of the shaft is the only thing that was recovered; they couldn't find the bottom of it, so it must have got caught and then snapped. So that, basically, is kind of everything that happened. Tim then, because he was the leader, he then had the really trying task of now calling the families, and we went from there.

Informant #22 said, "…yeah, I would say it was very stressful, and, you know, once the first responders took over, I broke down and was crying and seeing him in the litter. It was really scary, and, yeah, it was stressful."

Many informants described in detail the things they heard, like popping sounds, the sounds of a fall or described repeated screams as "just like awful, awful sounds…" or "she let out this terrible groan that I'd never heard a person make before." Informant #17 described what he saw and heard.

He starts hitting ledges. And these ledges are kind of big ledges that form

these little tiers at the beginning of that first pitch. And, he…I could just see

his body, and I can still picture it, sort of like ragdoll, like…spiraling and

rotating, like, kind of like you're doing … … I guess, basically, like,

summersaults—just totally out of control. And he hit one ledge, and he's, like,

flipping through the air. And I feel like I could hear his skeleton, like,

impact—like his body impact the ledges. And then he was at the bottom, and

he was just, like, this limp ragdoll. And I was just in shock, and then I could

hear his friends were freaking out.

In many instances, it was evident that informants were still bothered by the images

and other sensory associations with the accident by the inflection in their voices when they

described them to me. Of particular note was the way Informant #4 described his images as,

"the absolute shock of what I saw…was stuck to her head…flat as a pancake, and I was the

only one to see what…her condition was"; or how Informant #9 said, "…the last thing that I

saw of her, was…she had a blue helmet on, and I just barely happened to notice that the

helmet kind of rose up and then disappeared."

This section of narrative is included because it is from a bystander–someone without

prior association with the individuals involved in the accident. Informant #21 said,

I can kind of make out faces, peoples' faces. I can kind of make out body

positions in the snow, the glistening shimmer of the snow, the blue skies, the

summit day, what my partner looked like, the route—the ridge on the route

that day. I remember climbing that; I have flashbacks of the chopper above us

and me hovering over the last member in the group who got…who was the

second-most critical. I remember flashbacks, just thinking the most critical

girl in the litter, and then the bean bag body filled to help keep her spine

immobilized, and to potentially help with her pelvic discomfort. I

remember…I remember her being in the crevasse. I remember looking down;

I remember…the looks on some of the faces. On the second girl with the

concussion, I remember her sitting on top of the crevasse with her partner's

head in her lap.

Other descriptions for these sights and sounds included phrases like "a limp, dead dog" or "a

terrible-looking fall." But regardless of what metaphors or imagery they used to describe

what they had seen or heard, informants cited aspects of the accident, or the entire

experience, that they couldn't easily forget. These accident experiences were upsetting,

intense, and traumatic. In other instances, individuals were left to wonder about how

someone died; some were kept from seeing bodies by the authorities and, in certain

situations, had to wait for several months or years to understand how or when someone died.

In these instances, some informants were only able to imagine how they were killed. One

participant had determined that his friends were "probably killed instantly when they hit the

talus." Later, Informant #1 described the impact to his friend's body once it was recovered.

Once they found them, it gave me an appreciation for what, you know, an

avalanche can do to you because, I mean, Cole had literally…his plastic boots

were just crushed, just dangling off his feet with the laces. And he had more

broken bones, you know, than he didn't, and he had, like, four skull fractures,

and he had a helmet on. So I mean and that was one of the thing was always

concerning to me wow, did they actually get a chance to suffocate, but it was

clearly…they didn't, you know, they didn't….they were just killed instantly,

probably once they starting hitting the talus.

One final example of how informants described sights, sounds, and imagery included the way injured informants described aspects of their own experience. Informant #14 described the boulder that came dislodged and fell on her. She said, "…I remember seeing this rock. I remember it looked like a parallelogram. I just remember, like the…the sides were, like, what you would draw in class. I just remember the shape vividly when I was falling."

Similarly, Informant #8 uses vivid imagery to describe his experience.

I don't remember hitting anything. All I remember is literally waking up, my ears were ringing, and I was face down in the snow, and I just kind of opened my eyes, like, we're waking from sleep. And I looked over, and I just saw the sun, and I was just like, "I'm still alive." And then I just remember like a movie where it was ringing, and then it just went…it was quiet. It was like snowfall in the forest, you know, or a cabin where you, like, literally…where it was just you. That's what I felt like, like I was just alone.

Both of these quotes demonstrate how the intensity of these accidents really heightened the informants' senses. These images and sounds are stressful in and of themselves but are also an important factor in other manifestations of stress, in particular, the reliving of the event. I also think the use or inclusion of imagery, sight, and sounds is an attempt to help others understand. *Sights and sounds* are one of the specific aspects of the accident aftermath with which individuals had to cope. In some cases, individuals are left only with these images and without answers for the cause of an accident, which seemed to further complicate stress.

The *accident stress* subtheme represents the situational factors assumed to be influential factors in stress appraisal. Situational factors include properties that would cause someone to deem a situation as harmful, dangerous, threatening, or challenging (Lazarus & Folkman, 1984). It became apparent that impacts from these accidents seemed to permeate into other areas and aspects of life, triggering other stressful situations for informants. The accident itself was the first stress stimuli that had to be appraised by the informant. This section on stress illustrates how and why these accidents were deemed harmful, dangerous, threatening, and/or challenging.

Intrapersonal Stress

The following two themes—*expression of emotions and other forms of loss* and *processing and making sense of the accident*—seem to fit under the category of stressors internally oriented or directly related to factors that could be considered a type of intrapersonal constraint. These questions occurred in the days, weeks, and months following and in many cases lingered or resurfaced long after the accident. The first theme is focused on the *expressions of emotions and other forms of loss* shared by the informants.

Expressions of Emotion and Other Forms of Loss. This section is intended to describe and further elucidate the breadth of emotions and other forms of loss that the informants experienced as a direct result of the accident to which they were exposed, including physical, financial, and property loss. There are certain emotions that obviously coincide with many of the themes already addressed in the result section–those that could be inferred or assumed, or even those that were spoken. However, when I asked informants specifically about how the

accident made them feel, they used certain expressions for emotions more regularly than others. There were some that were more prevalent throughout the entirety of the interviews, and I have attempted to capture them in this section. These emotions sometimes manifested early on, were more immediate, or lingered for long periods of time. The duration was unique to each person and each situation.

As noted already, some specifically described their particular situations as stressful. I gathered that some of the stress was associated with the recognition of how the accident was impacting other areas of their lives like work, relationships, and leisure enjoyment. One expression used was, "extremely stressful….stressful to consider quitting a lifetime of work," and another informant described the stress as a "disruption to work." Another informant described experiencing some "light depression." The predominant emotions that informants described included sadness, devastation, helplessness, anger, guilt, regret, resentment, embarrassment, frustration, shock, disbelief, and anxiety. Several informants expressed resentment. For instance, some individuals resented that other climbing partners did not seem remorseful enough, seemed to be guilt free over the injuries and deaths of others, and were so quick to return care free to their activities. Informant #7 said,

> Part of me is frustrated with him: "God, how dare you go back? I mean, was once not enough?" Maybe I'm driven differently; maybe it if happened to me, I'd need to go back and do it; maybe he doesn't care; maybe it was such an accident that it doesn't affect him. I don't know, but I'm a backpacker with a three-year-old, and I'll be okay.

His comments not only suggest his resentment but his own internal wrestling as well. One participant shared extensively about the way it bothered and offended him to see pictures on

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Facebook of his climbing partner back on trips so quickly after the accident. This same

informant felt angry that he was hurt and that the person that caused the accident was not.

Informant #16's comments were similar but directed toward her emotional struggles. She

said, "…it's not fair that Heath healed a lot faster than me… I wish Heath remembered this

so that he was more sensitive to what I'm going through." Other emotions included

"disappointment," "devastation," "disbelief," and feelings of "failure." Informant #14

described her disappointment over her injuries in the context of a training course she

desperately wanted to be on. She had great respect for her instructor and, as such, felt she had

let him down or failed. She said,

> I was so mad. I just remember Rick, like, being over me this great figure, just
>
> being, like, "This is my NOLS course, like, this is stupid." I had so much
>
> appreciation for him, and I was devastated. I felt more devastated about, like,
>
> I'm not going to be able to finish this course.

Others assigned a time frame to when they were the most emotional. One participant said that

he was pretty emotionally unstable for the first year. Another participant indicated that the

emotional impacts of his accident made him feel "old and vulnerable." Two of the emotions

that informants identified often included guilt and/or blame associated with being the sole

survivor. Informant #4 said, in reference to the blame he carried,

> Lucas, Wayne and Debbie were on that rope. And had I been able to perform
>
> like I was supposed to have, um, we would have been to the top much earlier.
>
> And, so I personally blame myself for Debbie's death. And I know that's not
>
> logical, but I do. And it wears on me—it's been six years now, and I blame
>
> myself for her death. A situation where I could have affected something to

save somebody else's life, and now, here I am alive and she passed away. So,

it's a very…that's a very humbling thing to carry with you.

Informant #8 described guilt but compared it to those who must be feeling more. He said,

"…I feel guilt for [what happened to] Pete, but I don't feel as much as I would if I had been

the one that caused the accident. Like, I didn't mean to fall. Like, I didn't mean to do that."

Several informants experienced guilt because they felt like the climb or the trip was their idea

or they were the strongest climber or kayaker. For example, Informant #22 expressed

feelings of guilt even though he knew his friend was going to make a full recovery at the time

of the interview. He said,

Well, I've kind of been thinking/blaming myself partially for the whole thing

since, you know, I was the strongest climber on the trip and I was the one who

suggested the route. And I was kind of getting him more into traditional

climbing as well. And just… the idea of putting… realizing I'm putting my

friends in danger when we go out, and I have been putting my friends in

danger when we've gone out, has been hard.

Informant #16 said,

I felt more guilt at that point about the events leading up to the fall. And I

wouldn't say that that guilt was crippling at any point in time, but I definitely

felt like it was more my fault than his fault that he fell. Like, me, not that I

took a long time on that climb, but just that I said yes to that climb. I should

not have said yes to that second climb! I should have said, "No, I'm really

tired. We can do some single-pitch stuff that's less committing, but I don't

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have it in me to climb a 5-foot-10 chimney and off-width." So, anyway, I felt

more guilt around that than anything else.

One informant said that he "personally blamed himself" for his friend's death because he wasn't able to be with the team due to an injury, and concluded that had he been there, the accident would not have occurred. He admitted that this sentiment was not "logical," but he felt it nonetheless. Other forms of guilt resembled a sort of conflict in which informants would acknowledge that they felt guilty and described it as a type of hurdle to get over. They also seemed to want to justify—as if to convince themselves again or me—that the decisions made were the right ones. For instance, they might describe that the person "knew the risks," had "made their own choices," or "had every right to be on that stretch of water." I did not get the impression that this was a one-time thought process but that it was recurring and ongoing. There was also stress associated with those individuals who were "sole survivors" or a type of "survivor's guilt." Informant #9 said,

Over and over again, in fact, I'm sure you have heard of people where they say, "Why am I alive?" It's the same thing. I'm no different in having those thoughts. Even today, I still have them today, you know? Why me? You know, the thing is, that eats at me a lot, still, is that the decision that I made to convince Debbie to keep that rope tied to her.

Other individuals in the study were the only other person on-site at the time of the accident and had the full responsibility of describing and relaying details of the accident to others. When Informant #3 described herself as, "…the only one who actually knows what happens," it was in context of the burden and anxiety she felt for being able to explain things in a manner that others could understand and trust. She described the pressure involved in

attempting to describe and help others be sympathetic to the incredibly intense and difficult situation that she and her climbing partner faced. In a similar vein, Informant #9 described how he knew he needed to make himself available immediately to the family of his deceased climbing partners, even before seeing his own family, since he was the "last person to see them alive." He described it like this,

> I'm the one, that survived [sniffles], and their loved ones didn't. So, it's… it's my responsibility to them, because I was the last one to see their…both of their loved ones alive, on the face of the planet. I was the last person to see them alive. You know, as families go, they're going to want to know all the details, as much as possible and as often as possible. I told Tim, "I have to make myself available in that capacity," and he completely agreed and he would be right there, with me. So what we did was we set up a time where I would meet with Wayne's family, by themselves, and I would meet with Debbie's family, by themselves, and just answer any questions that they had and just basically just go through the same sort of thing that I'm going over with you, with them.

Other informants would describe the regret associated with the timing of the accident and how it kept them from significant life events. Informant #10 said,

> One of the big things I regret is that this happened right before my daughter's graduation. When I woke up, I was like, oh well, we missed the whole graduation. I didn't even get to cancel the tickets. I just missed the whole three-day period.

In addition to feelings of guilt and of being the sole survivor, many of the informants also described their symptoms as Post-Traumatic Stress Disorder (PTSD). Some informants indicated they had been diagnosed, and others indicated that that they didn't know. Informants frequently referred to the accident as traumatic but described more long term impacts such as interruptions to sleep, a catatonic effect, flashbacks, dreams, nightmares, and/or more lingering or long term life consequences such as distractions, paranoia, and an overall inability to function. For instance, Informant #4 said,

> Well, for two or three months I hardly slept. It was just continuous nightmares over what I'd seen… and I finally said I can't work anymore, so I retired early from my consulting. I just stopped my consulting practice, I had a person to take over my work in early 2000 …this went on for several months.

At a minimum, at the time of their interviews, many informants indicated that they thought about the accident regularly if not every day. One informant described a type of distress associated with daily work tasks (i.e., filling out forms), which seemed trivial or "stupid" in light of the accident. Informant #20 described some of his long-term impacts this way. He said,

> Even to this day, I get flashbacks, and I will probably have them for, I don't know, the rest of my life. As time goes on, you still get–you just saw me–I still get emotionally involved in certain aspects of it. But now, six years later…it's not like it was one, two, three years after the fact. I mean, I couldn't have hardly gotten through this back then, but I don't think I experienced what would be considered that clinical state.

While I am not a licensed counselor or medical doctor, my impression as a listener was that many informants did indeed experience PTSD-type symptoms following the accident. In other cases, individuals would recognize PTSD symptoms in someone else impacted by the accident.

Other indicators of the severity of emotional distress–either short-term or long-term– were the occasions informants mentioned nightmares, bad dreams, reoccurring dreams, occasions of severe weeping, visions of the accident, paranoid thoughts, distractions or interruptions to work, an inability to function, or a sense of impending doom. They would describe a sense of "shock" and "awe," and many mentioned "flashbacks." One informant said, "…the flashbacks, they're strong." Informant #4 said that for months after the accident he was hardly aware that his friends were present, and Informant #14 described the way her accident caused unrealistic fear–another sentiment common in accident stories. She said,

> the things that have gone on since then have been a fear of dying, like a fear of mortality has presented itself to me after the accident, and things like flying and doing stuff like…I'm, I'm a train wreck, like, it's almost just… it's gotten worse….

There were several informants who could point to the extent of emotions and draw connections to broader behavioral changes or impacts. Again, Informant #14 described feelings of impending doom. She would worry about whether she had told family and friends that she loved them and describe how she was "putting herself through the wringer." Essentially, she wasn't clear if it was PTSD, but she knew she was experiencing overall behavioral changes due to her accident. The long-term impacts to worldview and long-term behavioral changes were common themes that I will develop in the results section.

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In the results section, I have already mentioned the heavy weight and responsibility these individuals carried with them as they cared for others, the ironies they mentioned that made an accident hard to comprehend, and the intense accident response and rescue scenarios in which they would find themselves. One informant alluded to this complexity when he said,

> Your head vacillates between a very pragmatic, "I've got stuff out there," and then there's another part of, "I don't know what's going on." You know, somebody said there had been a death, and there was a part of me that was just, like, crap. I mean, like, there was just a lot to process. It wasn't ever a depression thing, just a…there was just a lot to think through. It didn't spin me off into a bad place; most of the depression stuff had already kicked in, but it didn't help…it didn't help.

In terms of emotions, it seemed these individuals expressed self-awareness and could easily pinpoint their emotions and the overwhelming process of them. On the other hand, one informant said,

> I think I am doing fine. Yeah, I don't think I am…I mean, I'm not sure how most people would react. I wonder, am I not feeling enough, or am I feeling too much? That is something that's crossed my mind. I'm not…I wonder how I am supposed to feel.

For the most part, informants in this study had some kind of formal training and were engrossed in the social world associated with their pursuits enough to know common and standard practices and felt deep devotion to not only their activity, but to their recreation partners and the larger outdoor community. These realities seem to shed some light on why they might have experienced such strong emotions.

In addition to the emotional impacts, many informants made mention of their physical injuries, physical pain, short-term physical limitations, long-term impacts, and time spent in rehabilitation. Many would describe physical tasks, (i.e., activities of daily living) that they weren't able to perform and the accompanying frustration. They would also mention the relief they felt when they could return to those tasks again, like being able to button a child's shirt again or being able to independently take care of themselves again. One informant expressed how he would never be the same, and Informant #10 described how he still has physical signs of his injuries. He said, "I'm pretty much 100 percent, but there are lingering issues. Like, I'm a little hunched over; my back's a little bent."

In addition, several mentioned the financial costs associated with their particular accident. One informant described a type of "long-term financial stress." Informant #8 was more of a beginner in the activity associated with his accident, with less investment in the larger social world. He expressed his thoughts about the financial loss and toll this way,

> I would say this isn't fair, but at the same time…because I guess everyone's responsible for their own stuff. I will say, but—and you have to be careful when you say "but"—but there's a part of me that's actually frustrated with…and I'm friends with them, and I know that they've dealt with their emotions issues and physical issues, but there's a part of me that says, look you're the one that slipped. It's just being open and honest—but, you're the one that slipped—hey, why didn't you help me with my medical bills? Because I didn't do anything. Like, what's the difference between that and a drunk driver? Right. Like, I was just climbing a mountain. I'm not the one that fell. Now, I don't mean that in a self-righteous way, but I mean that in a way

of, like, "Hey you caused me physical harm. You did physical harm to my body that I will never ever be the same, so why didn't you reach out to me and help me with that?" So, yeah, financial toll? Ten thousand dollar is probably what I've had to pay–medical bills and physical therapy, you know–to get back to where I am today. And I'm being … blunt. Those are things that I've shared with my wife. But those are not things that I've shared with even close friends.

Informant #16 said,

You know, that—yes the financing was very stressful. I actually had quite a bit of resentment—not now, but at the time—I had resentment for his employer, you know, cutting our benefits package every year—our insurance just kept getting worse. So I was kind of shocked by that amount. So all of a sudden, there we were with $10,000 in medical bills. And I realize it could have been a lot worse than that, too. You know, like other people would be far worse off. And, you know, both of us made over $30,000 at the time, so it wasn't impossible to pay $10,000 or save up for it.

Several other informants noted significant financial strain but were fortunate to have support from their local community in sharing in those costs. Informant #3 described how the community pulled together to help with the bills. She said,

Because the community *really* pulled together and helped us in so many ways. They helped Eric's family. They helped my family. They pitched together; they brought food, flowers, well wishes, cards. They, you know, they helped

Eric's family with certain bills. They had a fundraiser to help with some of

our medical bills.

A few informants noted disappointment or frustration over lost gear or equipment

that was treated poorly or with lack of regard, given the spirit in which people volunteered it

for the rescue. Overall, there was little emphasis given to financial and property loss and, to

some degree, physical injuries by the majority of the informants. When I asked if there was

any stress associated with these things, they would make mention of them, and I do believe

they were significant factors. But they seemed lower in priority, almost an afterthought in

light of other forms or manifestations of stress. There were exceptions. Two individuals put

more value on lost gear and the costs associated with them than others. One of these

individuals was a bystander involved in a rescue and the other was a participant who I

believe resembled more of a beginner than many of the others. He had less intrinsic

motivation attached with the activity associated with the accident than did many of the

others. Their comments about lost gear are below.

Informant #21 said,

Oh, that was…that was the worst situation to deal with. It just kept dragging

on, like a bad taste in your mouth, like eating sour, soggy Cheerios. You

know, dealing with the Forest Service to get all of our equipment back. And,

we still didn't get all of our equipment back. It took…felt like almost a year

before it was finally all said and done. And then they wrote a check for all of

the missing gear. And then, what gear I did get back—my tent was stuffed

into this cardboard box that was all mangled and shredded before it got to me.

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And the inside of my tent was covered in mildew and leftover food from the

rescue.

Informant #7 said, "…it frustrates me that…or bothers me that I never got my ice axe back.

Or that somebody wouldn't say, 'Listen, here's 90 bucks to replace your axe.' Why that

bothers me, I don't know, but it does."

For some of these informants, it was obvious that they were still processing a

multitude of emotions. In some instances, it was as if these people had been keeping these

emotions under lock and key, and during the interview, they were free to express them. In the

matter of just a few minutes, Informant #9 referred to "stress," "anguish," "sadness," and

"fear" and then proceeded with statement after statement about different aspects of the entire

situation that "bothered him." For some, these emotions existed very much on the surface and

were still very raw.

In outdoor-recreation studies that have utilized the stress and coping model,

researchers have used various approaches to measure or determine the presence or absence of

stress. One method was to simply ask if people felt stress or not. Other studies utilized

measures of emotions or identified categories related to stress that were attributable to certain

conditions or environments. The results of this study indicate that emotions were prevalent

throughout all stages of reflection on the accident and were in existence to varying degrees

during the interviews. In this section, I intended to identify and organize them around certain

aspects of the accident where they were more predominant, in addition to identifying other

types of loss associated with the accident that contributed to stress.

Processing and Making Sense of the Accident. This section deals specifically with the

stress associated with the attempts and efforts to understand and come to grips with the

accident. It also represents the internal questions that individuals described as impactful or

stressful after the immediate accident was over that were more temporal in nature. Four

subthemes emerged under this broader theme and include the way in which informants

relived, replayed, and imagined scenarios; compared self to a standard; defended and

questioned the actions of others; and their attempts at *attribution and assigning a cause.*

Relived, Replayed, and Imagined Scenarios. Many informants described a period where

they replayed or relived the event over and over again in their heads. One informant

described this as a "continuous reel, just over and over and over again in my mind" and how

"for two or three months, I hardly slept. It was just continuous nightmares over what I had

seen." Informant #16 said "…so yeah, what I remember most is there would be little triggers,

I guess, that would set off the memory and all of the what-ifs and what-could-have-been, and

I would just weep for a while." Often informants would describe that as time passed, their

memory of the event would get more "vivid" or "clear." Sometimes the replays would simply

result in the same outcomes. For instance, Informant #20 said, "…I'll picture the fall and,

you know, where she landed and how she got back to, you know, getting her back to the

belay and, like, you know, stuff like that or something on the trying to get her on the

ground."

In some cases, informants would imagine or work through different scenarios or

circumstances that would have led to different or more favorable outcomes. Regardless,

people described these thoughts of having to "relive it" as disturbing, as bad memories,

painful, or a type of "wishful thinking." Informant #9 said, "…I will never know…it's always on your mind…you relive this in your head thousands of times…the accident and everything that led up to it…did I miss something? Should I have said something? Should I have done something?" Their word choices or inflection in sometimes simple or short phrases captured the depth of emotion and regret they carried. For instance, Informant #4 simply said in a lamenting fashion, "…If we had gotten in the other van, it wouldn't have happened." Informant #3 described the scenarios she ran through that could have changed the outcome of her accident. She described how she "…grappled a lot in the beginning, you know, what if, what if, why didn't I just have a broken arm? Why didn't I have other plans? You know, what could have gotten in the way for us to go? If we wouldn't have gone, this wouldn't have happened."

Informant #8 described how he would think a lot about the same scene and, "…I picture him falling, sliding down and flying off the cornice and what that must have been like for him and for his friends to have to see that." He also said that he had, "…come up with a thousand different ways that we could have prevented it." Informant #16 actually imagined a worse outcome than the injuries her husband actually sustained. She said,

> I think part of the pain was reliving his fall and kind of watching him fall over and over in my brain…I could close my eyes and relive the entire fall. I could, like, see him bouncing down the rocks and seeing his swollen face when I got to him, and the blood and a lot fresher and crisper…and part of it was that Heath could have been dead or paralyzed or have brain damage–all of these things that could make life really painful for a long time. So, it was kind of like Heath should have died, Heath should be dead—what if Heath had died?

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What would life feel like? What would I do? Would I ever get married again?

You know, like, would I ever climb again?

To further illustrate the prevalence of this, one participant who had, for a variety of reasons, left a trip early that later resulted in an accident said that he often thought about what it would have been like had he stayed. It was as if he was intentionally subjecting himself to the guilt and loss associated with that particular situation just by imagining how it would have impacted him. One informant, who also was not a part of the accident but associated with it, imagined that had he been there, the outcome might have been different. He said, "…I might have helped mitigate the accident." He admitted that he had run through some scenarios at first but then stopped himself, saying, "…you can talk about, like, should have, would have, could have all day, but that's not what the scenario was." This tendency to work through scenarios and relive aspects of the accident seemed to impact all of the informants, regardless of their relationship to the accident. What varied was the severity of these thoughts. In summary, *relived, replayed, and imagined scenarios* captures the type of mental processes, imagery, regrets, and pain that lingered in informants' minds long after their accidents.

Compared Self to Standard. The second subtheme, compared self to standard, involves statements regarding measurement of self against what might be expected, a particular skill set or protocol. In almost all cases, the informants who were on-site would describe some aspect of the accident that they wish they would have handled better, decided differently, or noticed earlier but didn't. This included individuals who ended up being the injured party or

who were responding or rendering aid. Informant #22 described what he thought might be construed as an oversight. He said,

> One thing I forgot to do–or maybe didn't forget to do, just consciously didn't do–was have a backup break hand for the rappel, which normally I wouldn't even notice. But since there was two of us, it was much heavier, so there was much less friction. I ended up wrapping the rope around my leg to get just a little bit more friction, and it worked fine

In many cases, they would call themselves out in the interview, admitting that they should have "noticed sooner," "hadn't noticed," "should have paid attention to," or "recognized" but didn't. More often than not, this involved an injury they overlooked. In one case, Informant #20 expressed a sort of apprehension about the attention and praise he was receiving from saving someone and said, almost in contradiction, "I mean, you're hearing me describe the accident, and you hear the spots where I say, I should have done it this way but I did it this way instead." Oftentimes, they would acknowledge the way a situation could have been made worse had they made a wrong decision or better if they had done one thing differently. Informant #20 said,

> She got hung up on a ledge 20 feet below me and, you know, wouldn't…wouldn't help or anything. So at that point, I rappelled down to her, so now I make the situation worse than if I'd just done it…done it right the first time… and, you know, I very well could've dropped both of us from that last 20 feet because I didn't take one precaution just because I didn't practice it, even if I knew it.

In some instances, they specifically compared their actions to industry standards regarding rescue, emergency response, wilderness medicine, or other technical safety practices. Informant #16 said,

> I kept all of his layers on him, knowing that I was going to have to leave him, and it was, at this point, hailing, cold, and wet. And, I didn't do, like, a full head-to-toe. I didn't expose anything else. I was, like, "I need to run and get help right away because it's going to take me a long time to get help. And, when it gets dark, he's going to be hypothermic." And so—rather than, like, follow, you know, what we're taught in our WFR classes to do a full head-to-toe, blah, blah, blah… you know, it was, like, I know that these injuries could be fatal, and I need to go get help.

It other cases, it was as simple as acknowledging they had done something differently than what they had been taught. Informant #8 described how he let go of his ice ax to protect his head instead of holding on to it. He said that is was "… my first instinct because I was afraid of a head injury. That…that wasn't the right thing to do, but it is what I did." Informant #5 said, "… my whole head was going through, 'Okay, I'm supposed to do…this is how I'm supposed to react,' and trying all those things, and, basically, I just fought like hell."

In contrast, there were a few occasions where an accident confirmed what someone perceived as a "calmness," "demeanor for," or "giftedness toward" responding to accidents. Some described how they were well equipped or "trained to handle," and their reflection on their own response or performance confirmed this or further inspired them. Informant #19 said,

Well, this is going to sound weird, but you would understand this, I think. In a sense, it almost makes me want to go back more. And partly because, I mean, I'm doing this interview right here at a fire station, you know, like, I'm a volunteer firefighter too, like…like I operate well in high-stress situations. And I felt like, in a…in a kind of ironic sense, I felt like there was a part of me that was able to respond really well to that because I think that's just how I'm built.

As informants shared about the outcomes of the events, some could and did acknowledge when they had made decisions that "in retrospect [were] good choices." Even on occasions when informants responded in a manner consistent with their training or protocol, they mentioned the standard protocol. Informant #18 was part of a recovery with very favorable outcomes–a close call of sorts–yet his comments illustrate how the demands of accidents caused a type of self-reflection or critique. He said,

Yeah, I thought about it a lot and I've also, you know …it's interesting, you don't…you don't always…I…I actually suspect you don't ever know how your mind is going to react in a situation like that, and I'm not certain that it's…that…that probably varies from event to event as much as it varies from individual to individual. So I thought about that a lot as well, like how do you react appropriately in an emergency situation and how much control do you have over that and how much is innate. And so what it's…you know, what it did is it spurred a long series of reflections about that type of a thing, like, this happens again, how do you make sure that your friends stay alive?

Whatever the source of the comparison, favorable or not, the informants underwent a sort of self-assessment in which they held themselves to a high standard. What was most interesting is that they deemed it necessary to bring attention to it and to include the details of their actions in context of the standard. It could be that the individuals who live within the social world of risk-related recreation associate judgment, procedures, or critique with not just accidents but participation in general. Outdoor leaders, in particular, are evaluated and assessed in almost every skill set imaginable, and certainly there is ample evidence for the tendency of lay people unfamiliar with these types of pursuits to pass judgment. However, plenty of the individuals who participated in the study had careers unrelated to outdoor recreation. They were recreationists and many had received no formal training. For example, Informant #20 said,

> Here is where I'll talk about a few other things…in retrospect it's like I knew from having read things, you know, either reading in climbing magazines or reading books about how to back up, that you should back up the rappell with a prussic knot so if you lose control of it…and, like, that isn't something that in that moment…that is not something that I had done normally. And how many times has a person rappelled in their life without any trouble, but there, where you try to do it, you don't take that second to stop and think about it.

This suggests that a high performance standard permeates at not just at the professional level, and that participants recognized the skill sets associated with their chosen pursuits. It may also suggest how serious individuals feel about and approach their pursuit– toward a high level of performance for self and one that is acknowledged and recognized by others. I did not encourage or hint at the need for informants to analyze decisions or try to tell

me their perspective on cause–only to share about the accident–and yet this sort of information became a common feature within their narratives.

Defended and Questioned the Actions of Others. The third subtheme relevant to processing and making sense of accident deals with the way many informants subtly defended/supported others and then internally questioned/criticized them at the same time in their own accident analysis. In many ways, this is relevant to stress because it suggests that they have run through scenarios that could have led to different outcomes for themselves or others and, in this case, based on the actions of others. During their stories about the accident, they would frequently speak on behalf of the deceased, as if attempting to give insight into his or her thought processes at the time or to justify or defend the decisions he or she made. It was as if survivors were stepping into the deceased's shoes. However, the same person might later allude to or hint to the idea that perhaps the deceased or a person in the party should have made a different decision.

For instance, Informant #1 went to great lengths to describe his friend's overall experience in winter mountaineering. He described his familiarity with the gully where the accident occurred, his conservative nature, his efforts to check the snow pack, and went on to defend his decision to be out that day. Later in the interview, the informant indicated that he wanted to ask his friend, "What the heck were you guys doing up there?" He said at one point that he was, "angry with a dead guy, and, you know, I had to, you know, work through forgiving someone who was my friend who wasn't around anymore." When I suggested in follow-up correspondence that it seemed he was both defending and questioning his friend's judgment at the same time, he said that, "this is a very accurate statement." In another

instance, Informant #3 described the clothing system she and her partner had on, which influenced the outcome of the accident. She said,

> I was dressed extremely warmly. I have a very good clothing system that I was using that that day. And my partner was not dressed very well for the conditions–particularly to be out as long as we were. So then we climbed through night and climbed through the next day, and got to a high point on the mountain where my partner was exhibiting signs of hypothermia and exhaustion. And the winds had picked up to such a level that, because he did not have the proper equipment, like goggles–I had goggles, he didn't. We couldn't continue on because he couldn't see at all. So then we had to descend the mountain after all of that.

Later in the conversation, she added that "…because there was loss of life, there is a lot of judgment–not only on me, but also on Eric which is very difficult for me to cope with because Eric was a good climber who made good decisions, and I maintain that to this day."

From these two selections of narrative, it is evident that informants often struggled with how to talk respectfully but honestly about their individual situations. I got the impression that it was difficult for informants to conclude that someone was not sufficiently qualified or had possibly made a costly decision or mistake. The informants seemed reluctant to do so and were guarded, conflicted, and apologetic. Informant #19 seemed to be putting herself in the shoes of someone else when she described a decision that cost a life. In this case, her comments were in defense of the other person's actions. She said, "…so he had to make the decision, he could continue to hold on to the boat and drown right there in front of

me because he couldn't breathe and then wrap [the boat] and all of his customers would be in the water. Or he needs to let go, and we need a high side."

Sometimes informants would describe that only much later did a piece of information come out that was telling or that shed a different light on things, which suggested that oftentimes individuals kept this information close and felt reluctant or lacked the freedom to share. For example, Informant #2 shared about how his friend disclosed to him a piece of information six years after the fact. He said, "Tim and I talked about it again last week, and Tim was saying–and, in fact, I hadn't heard this before–he was concerned about how qualified he really was to be there." Finally, Informant #7 made the following comments about his accident exposure. His relationship to this accident was that he was on a trip for a short time before deciding to return home. Later, the group he was with had an accident. He said,

> There was the first part of the trip, and I made a decision to come home. So to me, saying anything beyond that was selling Tim short…was selling the rest of them short. I don't know what happened." And then later, "I don't know. I wasn't there." I didn't want to…I didn't want to disrespect or cut people's legs out from under them, because I wasn't there. I think that was the most frustrating thing for me, because I wasn't there. I didn't second guess what they were doing.

Later in this statement, his comments reveal the conflict between wanting to support individuals and wrestling with the need to make sense of what has happened. He said, "…really, a lot of confusion, especially after the NOLS stuff, you put yourself in that

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situation, part of me was torn because you put a lot of people in a position to get hurt or dead. Oh, by the way, somebody did get dead."

Attribution and Assigning a Cause. The fourth subtheme related to making sense of the accident, *attribution and assigning a cause*, is not unlike the steps or subthemes already mentioned. But in this case, it specifically addressed the type of stress associated with clear versus unclear causes. In addition, it illustrates the relationship of stress with how closely or loosely the accident and activity type at the time was associated with informants' pursuits. One factor that became evident during the interviews was the kind of stress associated with not having clear answers about what happened in a particular situation and the attempts from individuals to assign a cause, any cause, or, in some cases, multiple causes when one was not clear. The phrase used by one informant, "I'll always wonder," was a common sentiment. In many instances, confusion or lack of clarity over cause led to not only personal stress but relational as well. Therefore, attribution dealt both with objective as well as the subjective and human factors. In fact, some informants referred to these terms and the lack of control associated with subjective factors. This remained true for those informants who were involved, observed, or who heard second hand.

Therefore, as a part of the accident analysis, individuals attempted to assign or attribute a cause. When the cause was obvious, it was easier for people to draw an application, make necessary adjustments, and move forward, or at least focus efforts on other manifestations of impact or stress. On the other hand, when causes were less clear, I was able to make more connections with the kind of stress experienced and even the way this ambiguity influenced more long-term behaviors. It seemed stress was more magnified for

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those who were unable to assign a cause. Informant #1 had described an accident to me in which the bodies of the victims were not located until a year later. He indicated that there were occasions where both he and his wife would say, "Maybe Cole just climbed up and over the top and walked out the other side and started a new life. And yeah, it was, I mean, trying to still cope with the whole thing, and then, you know, once they found them, it gave me an appreciation…." Informant #7–who was, for a portion of a trip, part of group that later experienced an accident after he left–described how for the longest time he didn't know what happened and was left with some ambiguity. He said,

> To think that somebody did something dumb that got a lot of people hurt and somebody killed, that would really bug me. And that's what I don't know, and then I don't know if that's a 50-50 role of the dice or not. Things going the way they went–chance, God, incident/accident, pure fluke–the way it went, it sucks. I'm glad to be loosely associated on this side. I guess that is where some of the uncertainty…I guess that is where some of the stress comes from because I don't [know] the details, but I'm not going to ask. Until somebody volunteers or sits down in front of me and says, "Yeah, let's recap," I think I'm always not going to know.

Later, when an official accident report was published, he compared it to a "map" and described how it, "…fill[ed] some uncertainties and fill[ed] some voids…there is still some latent processing to do, but I needed that map in my head and the report to frame what happened."

Another informant lamented about his lack of knowledge of what happened when he fell and his need to know exactly how his fall resulted in his injuries. He said,

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Oh, I also think about what it was, and this is something that kind of replays in my mind is the moment that I…because, I don't remember, but sometimes I want to know what happened. Like, I want to specifically know, and I don't think anybody will ever really know…

It was evident that informants looked forward or backward in relation to the events of the accident in order to pinpoint the first sign of problems or identify the most essential factor. For instance, Informant #9 said,

If you chain everything back, it was…it was the incredible lightning storm that started everything off. Otherwise, we would have just gone ahead and gone down the regular route, even in the high winds, because we are all used to that, but we were not used to that severity of lightning.

He continued by saying, "…one of the things I thought about was, you know, if it wasn't fatigue, if it wasn't the sub straight that we were climbing on, it could have been equipment failure."

He continued to describe how he found a picture that gave him an angle and that he stared at that photo "for hours on end" in efforts to pinpoint cause. In addition to all of the possible scenarios noted above, he turned his attention to possible issues or failures with the crampons or boots. His scenario alone points to a type of grappling for answers.

He is not the only one. Informant #8 provided several different possibilities, such as if someone had been in better shape, if they tested gear ahead of time, spent money on new equipment, had more people to self-arrest, and the list went on and on. He provided each explanation as if he were certain it was the single factor that caused the event. For instance, he said, "…I think what happened is that her crampon that was used…that she didn't buy

new gear. We are talking about $100 pair of crampons. A hundred dollars could have changed everything for everybody." The manner in which the informants described this process led me to conclude that it was agonizing and often without resolution. Some of the statements would include phrases like, "…I think what happened is…," "I don't know what happened…to the day I die, I will not know what caused that–what caused him to initially start to slide," or "I really wish I could have seen exactly what happened because I think it would help me a lot." In other instances, informants included in their narrative information about how they left an accident site after just observing an accident, helping out only temporarily and "still to this day" not knowing what happened or "I'm still curious…did he survive? I mean, [the fall] was just horrific, you know?" Aspects of the accidents that were "unknown" manifested into a sort of lingering pain. In some respects, people not knowing or being able to assign a cause was, in and of itself, a source of stress. To illustrate the preoccupation with assigning a cause, one informant came to a conclusion without fully knowledge but based on considering and thinking about it repeatedly. He said,

> I didn't really know enough about the person. I didn't really know. I mean, in hindsight, I think the person was just not experienced because it seems completely ridiculous that he would have pulled all of his gear because, there, I'm sure there are plenty of people that fall on that route and that it's safe as long as you have good gear and a good belay. But I think it opened the door for an area of doubt. Because I didn't fully understand all of the criteria that went into his accident. It opened up the door for me to think maybe what I hoped to be this valid and reliable set of safety back-ups isn't that reliable and valid.

Attribution or the ability to assign a cause also allowed individuals to then determine

the likelihood of a similar incident. For instance, some accidents brought into reality risks

that were likely or closely associated with accident. Others were viewed as more unlikely, a

freak occurrence, out of the ordinary, and more loosely associated with a particular pursuit.

For instance, Informant #6 took a severe fall while hiking out from a day of rock climbing in

a remote setting. His wife witnessed the fall. Her primary source of stress seemed to be from

the images she saw and the trauma associated with the event. Her husband, on the other hand,

was knocked unconscious almost immediately and has little memory of the actual event. He

attributed his primary source of stress to be based on the guilt he felt for not being as

traumatized as he felt he should have been. More importantly, he knew exactly what

happened but considered it random and loosely associated with the actual pursuit of rock

climbing. His comments pointed to the usefulness of association and attribution. He said,

> I mean I did…for me it was a little bit isolated from the specific activity of
>
> rock climbing. People ask, "Do you still go rock climbing?" And I do, and I
>
> still go hiking and I still walk around and I don't think I'm putting myself at
>
> risk of being in that situation again just because it was…it was sort of a
>
> unique experience and wasn't something that I was necessarily exposed to
>
> every time I go out and go rock climbing. A lot of times, I go rock climbing
>
> and it's blue skies and it's pretty weather, and in my career of climbing the
>
> handful of times I've been caught in a storm like that on a technical approach
>
> or descent have been very, very few. And so, I think if I found myself in those
>
> exact circumstances, I probably would have that association with the event. A

lot of times when I climb, I associate the collective experience in the outdoors,

not necessarily that single event.

This was not unlike others who were able to draw a distinction between a type of stress that was created when accidents seemed "random," "freak," "a complete, absolute fluke accident," or "just a shit-happens kind of thing." Informants used these characteristics to describe accidents or scenarios in which they felt they had less control from those where it was possible to "analyze the accident to determine where and what mistakes were made." Comments like those from Informant #7–"…to think that somebody did something dumb"– suggests that a cause could be determined. The efforts to use the "chain of events" to determine and assign a cause allowed the individuals to determine if an accident would be preventable or not in the future. People often referred to this as the method for gaining judgment. Their inability to draw or form judgment statements seemed to create anxiety. This is not unlike the stress appraisal process described by Lazarus and Folkman (1984) in which they suggest that individuals determine stress, in part, by evaluating not only harm, threat, or challenge but the resources to handle that stress in the future. It seems that knowledge about an accident is one piece of the puzzle that allows individuals to accurately determine a future course of action.

These four subthemes collectively point to the complexity and difficulty of making sense of accidents as well as the importance of being able to do so. It seems that this is a process that often lingers, and as informants gain more information and spend more time reflecting, the process takes on a dynamic and organic form. I gathered that the informants were making attempts to be honest with me and with themselves. There seems to be more

reluctance to speak critically of others–even in the case where there is a need to assign a cause.

A couple of the informants specifically mentioned their opinions about the importance of accident information to the larger outdoor recreation community. Essentially, I gathered that they were suggesting that when people hear about an accident, they need to be able to ask what happened in order to arrive at a conclusion. One participant suggested that even casual knowledge of an accident requires a degree of processing. Accident reports and analysis are commonplace amongst outdoor recreationists who participate in risk-related recreation. It is one tool they use to learn about and avoid similar mistakes. I asked all of the informants what piece of information or practice they took from their own experience with the accident. For those who could easily assign a cause, this "takeaway" was easy, clear, and straightforward. For those who had more difficult or ambiguous situations in which a cause could not be assigned, they were unable to do this. My sense is that accidents themselves create a cognitive dissonance or ambiguity that is exacerbated when informants are unable to determine a clear cause or, for whatever reason, are not given access or feel that they don't have a right to that information. I will develop many of these factors further developed in the outcome section.

Interpersonal Stress

The larger category of *interpersonal* deals specifically with stress associated with and specific to a variety of interpersonal relationships related to the accident. These relationships include those individuals involved in the accident itself; friends and family members; new associations that are formed as a direct result of the accident; the larger social world of risk-

related recreation; a person's home community, which might or might not include individuals who are like-minded and share common interests; and the media. This section further addresses these relational factors in context of the informants' identity within the larger social world, the meaning of participation, strength and meaning of pre-existing relationships, presence and absence of support systems, and social norms specific to risk-related recreation, along with some modern-day realities that are often beyond the control of the person. These factors emerged as a source of stress but also, in some instances, facilitated coping as well. In this section on coping, I will present each subtheme first as a source of stress. When appropriate, I will then describe how some of the same interpersonal issues that were in some instances a source of stress could become useful for healing. The subthemes under this heading include: *awareness of and sensitivity toward others*, *lingering and unspoken issues, associations with the accident*, *talking and sharing*, *relational strains, new relationships,* and *written accounts and documentation*.

Awareness of and Sensitivity Toward others. The first interpersonal subtheme deals with the *high level of awareness and sensitivity* the informants provided about the perceived mental state of those around them during the accident. They gave interpretations and references to their impressions or sense of who in their group was more or less impacted by the event than others, after the fact or in retrospect. I include it under this theme because it was so prominently included without prompting as informants openly shared their stories. One informant expressed it as "heart wrenching" when she thought about what her friends went through when they saw her avalanche slide and bury. Often, people made statements about others in comparison to their own impacts. One participant lamented about her

reactions to her husband when he would do something she perceived as equally risky as the actions involved in his accident. She explained that, "…but you know, he doesn't remember it, so it wasn't nearly as impactful mentally as it was for me." Likewise, her husband described his traumatic association as less and hers more because, "…she basically, in some ways, experienced the event or trauma more than I did because I was in a semi-conscious state." Informant #11 said that his friend was married at the time of their incident and, "...I think the impact hit him and his wife a lot more."

In addition to general statements about who was more or less impacted, informants were quite sensitive to specific aspects of the accident that caused emotional harm to others. This included references to what individuals had to see, the roles they had to play with accident investigation, or the difficult phone calls that had to be made. For instance, Informant #5 said, "…I think for the guys it was much harder initially because they had to watch it." These references also addressed emotions that someone else had to live with, including regret, guilt, and feelings of responsibility. In other instances, informants knew exactly how the accident had impacted the participation of someone else. Statements like, "…because it definitely affected him–he didn't climb for years" or "it impacted him pretty strongly" or "it triggered a lot of stuff for him" revealed a level of empathy and understanding many in the study felt. Another participant expressed concern for the rescuers, hoping that they felt cared for and not forgotten. Informant #10 was injured in his accident, and his comments shed light on his reflections about his experience. The first group he referenced was his family and the community at large; the second, a friend who was aware of his accident; and third, the person intimately involved in the accident. He said in reference to his family,

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I think my priorities were not far off before that, so they didn't change that much after that. And, so I'm not sure it had a huge effect on my personally. I think it had a big effect on my family. I think they were very scared and appreciate things in a different way. It was a big deal for someone as accomplished as I was, or am, to have an accident like that in one's own backyard, and it was a big deal for the climbing community.

He noted the following in regard to impacts to a friend,

But she was there that day, and we were climbing, like, 18 months later, and … I…I kind of looked down while I was leading the pitch, and I realized, "Wow, this is the first time we've climbed together since that accident." And I looked at her, and I could tell that she was, you know, kind of freaked out. I mean, she wasn't going to drop her belay by any means, but she was, you know, it was a bigger deal for her to climb with me again than it was for me to go climbing again.

He said in reference to the person partially responsible for his injuries,

I told her at one point we should go climbing again. We should, you know, kind of … … kick that, kick that off! You know, go climbing again and, you know, push the buttons that it pushes. And she said, "Yeah, let's do!" And I think—you know, for various reasons, it never worked out. And I think probably the underlying reason is that deep down inside she just didn't want to.

Informant #1 referenced the impacts to his wife because of her involvement in an accident that resulted in a fatality. He said, "…I mean, that was certainly a fallout from this accident

because she definitely had severe…and, you know, she's prone to PTSD; like, big accidents affect her more than they tend to affect me, and she knows that now she's got to deal with that." Informant #5, who was injured in an avalanche slide, said about her friend who was on-site, "…it would be really interesting to talk to him about it, because I think…because he was pretty new to backcountry skiing, it impacted him pretty strongly."

There was also sensitivity to important or significant conversations that occurred or needed to occur. Informant #14 said that as soon as she got to the hospital she wanted to talk to her dad. Others felt an urgency to talk to a certain person because they were able to anticipate how they might feel as a result of an accident. Informant #10 said,

> And my wife's name is Julie…and, you know, during those five days when I was unconscious my wife was sitting right by my side…and when I woke up, one of the first things I said was, "I need to talk to Julie!" And my wife said, "Well, honey, I'm right here!" And I said, "No, I need to talk to the Julie that dropped me!"

Some of this urgency was based on a desire and felt responsibility to deliver bad news to someone who had found out another way. For example, Informant #3 said, "…my main goal was to get to my friend's wife and tell her what happened, communicate with her, and also to, you know, save my own life and get home to my daughter."

The sensitivity and awareness to self and others suggest a level of immersion and astuteness to the situations they found themselves in. The impacts or potential of impacts to others was obvious and created a layer of concern for individuals involved in accidents. Maria Coffey (2003) described a sort of "ripple effect" that occurred to others based on her interviews with friends and families of extreme mountaineers. The numerous occasions that

informants made this type of reference in the interviews suggests that the individuals who participated in this study understood this reality intuitively. This indicates to me that these individuals recognized the significance of these accidents as events not only in their lives but in the lives of others and that the emotional and physical impacts could be long term.

Lingering and Unspoken Issues. The second interpersonal subtheme relates to *lingering and unspoken issues*. I was surprised at the number of occasions informants would point to a question, statement, or conversation as important but unresolved. In some cases, issues would linger on or be delayed for years, if they were addressed at all. These lingering or unspoken issues often centered on cause or blame. There were several factors that I believe contributed to this. First, statements or questions might have seemed irrelevant in the grand scheme of things, yet they came up in the interviews. Sometimes informants mentioned them more than once. For instance, Informant #2 referenced the exact statement that his friend directed his wife to give him regarding the accident and who was at fault. My impression is that the nature of the statement she was directed to give him bothered and disturbed him. It seemed so irrelevant to the gravity of the situation. When I asked him if he had ever sought clarification from his friend about the statement, he said, "…no, I never did, but that is a good point. I never asked him that question."

Secondly, there is fear or trepidation about broaching the subject because it was considered sensitive, could be upsetting to others, or the person with the question or concern might appear judgmental or weak. Informant #5 shared about a recent conversation that occurred 14 years prior with her and her skiing partner. She said,

It was the first time we talked about it, and it was pretty interesting. He

thought he started the slide that buried me. He felt much more responsibility

for it, and I didn't even realize that, and I in no way held him accountable for

it.

In other case, Informant #14 shared with me about the esteem she felt toward one of her

instructors who ended up being involved in her rescue and her reaction when seeing him for

the first time after the accident. She said, "…and all of a sudden…[sigh]the whole world …

and I remember just turning around and seeing him. I just got this whole flood of emotion,

like… 'You're the person who saved my life, but it had been 10 years'." When I asked her if

she had ever spoken with him about her accident and his role in it, she seemed to express

regret and disappointment when she said, "…not so much."

A third reason for lingering or unresolved issues is that there was no forum or

occasion to discuss or share. In organization-led programs, many will offer processing or

debriefing sessions after an incident of any kind. In fact, debriefing and processing is a

method used to facilitate learning; instill a sense of community and accountability; and to

have an open forum to address any kind of emotional, social, or physical concern. Some

organizations incorporate a "critical incident debrief" after any kind of near-miss, close call,

or incident. In some ways, it is an industry norm or standard of practice. Informal groups

might not even consider and certainly are not obligated or accountable to anyone to do this.

In some cases, discussions of this nature may happen organically and intuitively, and in other

instances, they may not. Several informants seem to experience lingering emotional strain

because there were so many issues, questions, and hard feelings group members were not

able to resolve.

Fourth, and perhaps the most notable, are those occasions when relationships at the time of the incident were only loosely formed. In these cases, it seemed that there was not enough relational foundation to sustain people through difficult circumstances or warrant the effort to resolve issues. Table #8 unresolved issues illustrates the context of the situation and then provides a quote specific to these.

Table 8

Unresolved Issues.

Context	Statement
Cause - who slipped and caused the initial slide that resulted in multiple injuries and one fatality	But I'm not going to ask that question, because I don't want Todd to be wrong; I don't want Sam to be wrong. If I don't ask the question, they don't have to answer it. "Sam, did you feel safe? Did that go…did that trip go the way you wanted it to go?
Cause - fear or apprehension about asking about the events associated with an accident	I didn't feel like I had any more right to the information than anybody else…I just wanted to be kind of a silent partner, slinking off, just because I didn't have anything to add to the equation." And then, "I didn't need to interact with him; I didn't need to ask what happened, one, because I didn't feel like I had any more right to it than anybody else.
Cause - no forum for processing or debriefing amongst group members about an accident.	It bothers me that a group leader, Todd, never sat me down and--yeah, sure, everyone apologize, like, I apologize for putting you guys in that situation." Whether he felt like he was the group leader or not, um, he was, by default. Um, all of the relationships of the people that I climb with I don't really talk to, and I think that is awkward.
Cause - no forum for processing or debriefing amongst group members about an accident.	I think one thing I want to get out there that bothers me that we haven't…that hasn't really been widely talked about is that I took the trip seriously. Like, all of my gear was in line, like, all of my stuff, I made sure it all fit, fine-tuned, ready to rock before we ever left. And, well, when we were there, you know, before we climbed...there's people that still hadn't ever really put on crampons.

There may be occasions when individuals or even organizations lack the knowledge or don't give priority to creating a forum where participants and/or friends may debrief, process, seek

clarification, or express concern. As imagined, that process could be difficult and threaten relationships, in particular, when there is an absence of a trained professional. I do believe that there is some overlap or a relationship between loosely formed groups, more tenuous accident scenarios (i.e., blame), and the lack of opportunity to debrief or bring closure to an event. The selected quotes above allude to some fairly intense emotions that will likely remain unresolved, at least among the group members. They may share these emotions with others like they did with me, but I am not sure that it provides the same palliative outcome or closure that they seem to need.

Associations with the Accident. The third interpersonal subtheme is *associations with the accident*. Many informants shared an overall embarrassment because of their associations with the accident. They derived this embarrassment either from a concern over how they might be perceived or as a direct result from the community response. This subtheme is included in the category of interpersonal stress rather than in the intrapersonal category because it seems specifically related to or is a result of a person's identity within the larger social world or as a result of the way laypeople respond to accidents. The feelings of embarrassment or association are very relational in nature. I believe that even if these feelings of embarrassment or association originated internally, they caused apprehension, avoidance, or cautiousness in situations where these informants had to interact and relate to others.

Some informants felt embarrassment because they felt their accident reflected poorly on them or that people would somehow make larger assumptions or generalizations about their safety record or the safety record of the organization with which they were involved.

Some just felt like it was sort of a "black mark" that they wanted to disassociate with, escape from, or "slink off" from. Others described their accidents as "bad things that happened" that they didn't really want to be associated with and felt attached to because of the attention the accident received. Informant #10 said that he was, "concerned about his image" and that, " …like, oh, it's kind of embarrassing, I guess, to have a…to make a mistake or be a part of a mistake, which was a big deal for someone as accomplished as I was—or am, to have an accident like that in one's own backyard." Similarly, Informant #6 said,

> [it] was a little bit, for me, was a little bit of an embarrassment just because I was currently a program director. I'm still a program director of organizations that do those activities and, you know, want to do them safely, and with the fact that I was, you know, on a personal trip and got in such a severe accident, you know, is not something that I'm, you know, something I want to avoid. And I want to tell people that, "Hey, you're gonna…you're gonna receive a program that's safe and that you know will run safely." And so I don't…I don't necessarily want people to think, "Hey, you know, how can we…how can we think that our students will be safe if the person that's running this program was involved or doesn't have the judgment or the you know, ability to figure out how to avoid that type of situation.

The two sections of narrative above were given from professionals, but this same kind of reaction seemed to permeate among general recreationists as well, as reflected in these two quotes. Informant #7 said,

> I don't know what the right answer is, so, yeah, if you Google the articles and my name does pop up, there is part of me–and it's not embarrassing–part of is

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an embarrassment that my name is associated with an event that went that

way. It's not a cross that I bear, that I'm not losing sleep over it, but to me,

there is sort of a black mark there by my name. There was nothing heroic on

our side; but there was on [the] side [of the rescuer who died], absolutely. I

want to be the name that's mentioned that helped save those four or five; I

don't want to be on the side of those four or five. Going back and reading the

report, there were people on the mountain that went and set anchors, people

that got gear where it needed to be; I want to be on that side of things. I want

to be on that competent, good position to be in.

Some of their stress associated with the accidents was not just based on perceptions of

how they might be perceived. In many cases, the informants expressed concern over the

reaction of the community to the accident–demonizing the activity itself or location of that

activity. In other cases, their association with the accident resulted in criticism from the

community. Informant #11 shared about his apprehension to kayak a stretch of river because

of how family members of the deceased perceived it. He said, "…but I kayaked that stretch

once or twice after, and, really, I probably didn't kayak it more than that out of respect for his

family 'cause I think his family kind of demonized that stretch water mark more than I did."

Informants described community as a "tight-knit" group of individuals; others

referred to "community" as all the people in a community who climbed, backcountry skied,

or kayaked. Other times, people referred to their church community. One participant

described those in her tight-knit community as "arm-chair adventurers" with a tendency to

judge. She said, "…and, you know, that's just what people do–they judge." She described

this as a type of "social stress." Another participant said that the locals in her community

(fellow backcountry skiers) were critical of her for being open and honest about her accident involving an avalanche and even more so when she agree to participate in educational projects in an effort to inform others. Her close friend teased her about being associated with avalanches. I believe that some of the apprehension about being associated with the incident was that it could potentially cause more fear or apprehension for family members. Informant #7 was concerned that the accident with which he was associated would cause his wife to project the same possibilities onto him. He said,

> I don't know how to say this delicately. I'm not really upset, but part of me is upset that my name is associated with it. Some of it kind of points back to the Olivia side of things, the fact that I was willing to do something where that could happen and clearly it can happen because it did. [And she is thinking] what if it happened to you.

Other times, community extended to the search and rescue team, organizations that gather and report on accidents, or the media. The community response was a factor that, in some instances and under certain conditions, contributed to stress, whether perceived or real, and in other cases, it served or supported the coping process. The following three quotes illustrate the response or reactions from the community. Informant #10 said about his accident,

> The other thing that kind of, um, became a bit of an issue was that I didn't have a helmet on. People are, like, right out of the gate, like, "Did you have a helmet on?" Even though it had no bearing on the outcome...I would…uh, you know, place helmet use on a spectrum....And, I felt like I…I don't know, that I

might have found myself justifying not wearing a helmet rather than using that as a teachable moment as I could have.

Informant #16 described judgment and criticism she felt, "… but there were definitely people in our community, especially in our church, who thought we were crazy to go climbing after that happened." Informant #5 said about the skiing community:

Because I wrote up an account of it and they published it in that…the newsletter for the …avalanche center. So it was pretty public; I was actually psyched that it was. Some people definitely gave me a little bit of shit about it, kind of like they wouldn't admit to it, and my attitude really is, like, "If I can express where I blew it and somebody else can relate or remember that story or make a different call because of it, I feel good."

Informants felt like their involvement or association with accidents reflected poorly on them, brought open criticism, could bring negative and/or inaccurate attention to themselves or their pursuit, or contribute to the doubts or concerns of family or friends.

Almost all of the informants associated stress with the media. The media included anyone responsible for reporting or gathering information about accidents with the intention of publicizing through print, Internet, and television reporting. One exception for this was when people mentioned a specific publication of devoted to collecting and reporting information about accidents. One participant mentioned this publication in reference to a write-up he made about the accident that he was willing to share but didn't out of the respect and wishes of his injured partner.

The other stress associated with media reporting was when a group of individuals who experienced the same incident had different impressions of how the media should be handled. For example, Informant #7 said,

> I didn't know how much she was involved in noticing the initial fall. I didn't have a clue; there was just a whole lot of information coming out of Dana that seemed to be vetting information that I didn't know, and that was sort of my need to control. I mean, I couldn't control her; I didn't want to. I kind of wish…my thought was, "Back off on what's coming out." I felt like she was being a mouthpiece for some people on the mountain that she may not have contact with. I don't know if that makes any sense. I knew they were grabbing names. I knew that the university was getting associated because two or three of the climbers were graduates or employees, and, I mean, I wanted to protect the brand. I mean, we had no involvement with the trip.

The narrative above illustrates the negative impression or feelings participants associated with the media. In addition, there was not always agreement about how party members handled the media. It is interesting to note that many organizations receive formal training on how to deal with the media in context of incident response–a resource or opportunity not as accessible or even known to the general recreationist.

Finally, participants' impressions of the media essentially revolved around the impersonal nature of reporting, reporters' tendency to get facts incorrect without efforts made to correct them, use of accidents for other agendas or purposes, and the critical nature of the

media in general. Some informants experienced anxiety or concern about getting to family members before the media. One informant said,

> I have to get to the families before the media does. I have to get to my own family before the media does because something like this spreads instantly, in a day, around the world almost, especially with the Internet and things like that. And sure as hell enough, it did.

In addition, some informants referred to the harmful and disturbing nature of the personal comments found at the end of Internet news articles, while others indicated that media reports made them "nervous" or "exposed." Informants tended to say that post-accident reports were an annoyance, inaccurate, hateful, and exacerbating to an already stressful situation. Informant #2 said that, "…I think they were hard to read because they were written by someone who didn't know Debbie, just a reporter or something. It's all just so cut and dry, and it I think it made it harder." Informant #20 said,

> and so when somebody writes it up and they say it wrong, it really annoys you. And there were a couple of things there, and you can't really see it, but it just rubbed me the wrong way–like the EMT in a helicopter whose got hit camera while he's hauling the patient…hauling up my friend to take care of, and it's, like, "Why are you videotaping this?"

In summary, there were many degrees to which informants felt distress, embarrassment, or concern over their association with their accident. Either those feelings were internally driven based on people's identities and how they were perceived, or they were a direct result of community response or media response.

There were other instances where the informants seemed to suggest that their respective community response was good or helpful. They provided many examples of how the larger community or their tight-knit social world was a source of coping–meeting emotional and physical needs. For instance, several informants received financial help for medical bills or other neighborly types of expressions, such as wood during the winter, meals, and groceries. Informants shared about their family members coming to provide support during the early days of physical healing. Other informants referred to the community as their support network, which included like-minded individuals–"people I had worked with and been out in the mountains with." They communicated how important community was to healing and expressed regret when they did not have access to it. Informant #6 said about the support he received from the community:

> Yeah, I think the biggest thing was it was a pivotal…pretty pivotal moment for me and our home community. For me, I kind of grew up going to church, and I'd always just kind of attended and not really had a really strong connection with it–just kind of went and participated. And through that process, we just received so many people cooking meals or coming in to check on us or providing firewood. And that really, like, I was kind of, like, "Oh wow, this is…this is what church is for." And it's really… [to] have been on the receiving end of that type of kind of outreach or outpouring of it is, you know, just assistance. And so, that was, I don't know, one thing that I really…I appreciated it. I feel kind of indebted to all these people that are, uh, really came in and helped us out so.

It seemed that the community could be an outlet for coping as individuals used their accident as a way to educate others, to express gratitude, or communicate openly about an accident. Another way the community seemed relevant to coping was in the capacity of helping and meeting needs. Informant #3 described how she used her access to the community to serve two purposes. She said,

> It started…the premise was it was a thank you for all the things–because the community really pulled together and helped us in so many ways. They helped Eric's family. They helped my family. They pitched together, they brought food, flowers, well wishes, cards. They, you know, they helped Eric's family with certain bills. They had a fundraiser to help with some of our medical bills, um, things like that. And so, just, like the…the caliber of how the, like, high-quality care we got from, you know, the rescue team, the medical personnel. Like, it was…it was…well, the community was amazing. And so I started out, basically saying, you know, this is my big "thank you" to the community, but also here's what happened.

There were some occasions where the response by the community and the way the informants could lean on and share with the larger community was helpful.

Talking and Sharing. The fourth interpersonal subtheme is *talking and sharing*. When I asked informants about the usefulness of talking or sharing about the accident, the responses were varied. Some individuals identified themselves as quiet by nature or reluctant to share because people might get "judgy."Another informant described his difficulty with finding words to express himself.

While there was some variation, informants were more unanimous in their feelings that talking about the accident was quite difficult and often exacerbated an already difficult situation. Informant #6 referred to it as an "annoyance" because of the time it took. He also suggested that perhaps people were looking for something that he didn't have. Specifically, he said, "…and it's not really something that I walked away with, like, a real easy and some kind of application or moral to the story." His comments suggest that these sort of encounters were emotionally draining. Another informant described how he wanted to wear a "giant sign that said, 'I don't know; I wasn't there'." One of the reasons informants had difficulty sharing about the accidents was the emotional toll that it seemed to create or that "constantly retelling the story was pretty painful." One informant referred to the "challenges of…reliving the incident so many times by retelling the story." For instance, Informant #11 shared the following,

> And I think…to me, I've definitely seen other people with, um, one of the challenges is you have to relive the incident so many times by retelling the story. That it's much different than, like, a friend that passes away from a car accident. Or, you know, that's kind of your…there's not many facts to be understood other than…And, and so these are…you know, talking to other guiding professionals or other, you know, people that have an understanding of kayakers or whatever, that are, one, it's important for them to understand the details. And, and their own process, so that was, that was probably a stress. It's just kind of having to retell the story over and over again.

The following ideas are illustrated in his narrative: (1) the difficulty of having to retell the story balanced with the desire to meet the needs of those with similar interests who have a

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legitimate need to know and (2) that just hearing about an accident causes some stress and a

need for information. Informant #1 shared similar thoughts on the natural need for like-

minded individuals to know the details of the accident versus his own need to determine what

he tells and what he doesn't. He said,

> the less they know it, probably, the less detail I'm going to share because I
> know that a lot of the details are going kind of to be lost on them anyway. And
> people who know more about it, I'm more likely to share more details about
> it, and they are more likely to ask for more details as well because they are
> trying to, you know…even if it's someone they don't know that it's happened
> to, they're trying to cope with it, you know, they're realizing, "Wow, you
> know, I'm vulnerable, and this could happen to me and so I want to ask some
> questions about it and find out what happened." But I do tend to, you know,
> with my parents I share kind of the bare bones basic with them. I usually say,
> "If there's anything else you guys want to know, let me know," and usually
> there's not a lot they want to know. Not that they don't want to know
> anything, but, you know, they want to know I'm okay and that, you know,
> how they can pray and, you know, how they can support me in this–just know
> they don't have to understand, like, how does an avalanche work and what
> kind of gear did you have and, you know, why are you even out there in the
> first place.

Another informant described how the emotional toll associated with retelling the story turned

into, "…physical exhaustion, and you haven't even done anything, but you are mentally

exhausted after the whole description, and then you're physically tired." Several informants

shared specifically about how they dealt with the public. One had worked with her counselor to practice a "script" of sorts that she could use when she was approached by someone in the community with interest in the accident or her recovery. Others remember the day or conversation when they just came to the point where they couldn't share the story again or where they realized how tiring it was and "didn't want to do it that day" or when they set boundaries or freed themselves from feeling like they had to share over and over again. One informant said that for over a year and half he repeated the story and remembered when he felt like, "Oh my god, do I have to go through this again?" Informant #16 shared about the occasion when she was unwilling to talk about the accident anymore. She said,

> and, asking me to replay in more depth than anybody else was asking, and she wasn't even a close friend. I, hopefully, I didn't…I don't think I said anything that particularly harmed our relationship, but I remember saying, like, "I can't talk about this, and I'm sorry I can't answer that question because it's too painful. And can we talk about something else? I don't want to talk about this anymore."

A second reason for the difficulty of sharing or talking about the accident was that many individuals felt like there were very few people that could relate or that talking would cause undue stress or concern. Some informants felt like if they shared with family, those family members might get more worried or scared and question why they continue to participate. As I mentioned early in this results section, many informants in this study described varying degrees of support from primarily their families pre-accident. Informant #5 said in reference to the very limited amount of information she gave her parents about her accident, "…so I didn't have to get the question of 'are you really going out skiing?' but I

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also just don't like worrying them." It was not uncommon to hear informants express a desire for someone to talk to or a "support network" about their accident. Some felt like it was hard to find someone who could relate because he or she had also been involved in "something similar," a situation where "someone was close to dying," or a similar "high-stress situation." One informant explained the need to "seek out someone who understands the game" if he or she were going to try to talk to someone. In terms of sharing with family members, one participant indicated that it would just have resulted in having to "deal with some of their stress" and that it would just have taken more time to explain it. Participants described how others wouldn't understand the "full gravity" of it and, therefore, weren't equipped. I gathered that some needed another person to realize the importance or significant of just asking, "Tell me how you are doing?" Some informants who had professional roles in outdoor recreation also pointed at the lack of knowledge amongst their leaders and family, which led to isolation. One informant said, "…people don't really know what we do." Informant #8 said, "…to a certain extent, my family doesn't completely grasp it. If you grasp it, you have an edge from a standpoint that you understand mountaineering. For other people, let's just say someone tripped, and here we are, but it's a little bit bigger than that." His choice of words essentially suggested that there is a "disconnect" for individuals without insider knowledge because it is hard to relate to what these individuals went through and what the conditions were like.

The following narrative from Informant #15 seems double barreled. It captured an aloofness on the part of his parents but also hinted at their overall lack of understanding or appreciation for the responsibility of others involved in his line of work. He said the

following about an encounter with his parents after the accident that almost resulted in what could have been a deadly fall:

> I don't have a really close relationship with my folks, and I…I…what I do is very foreign to what their…their world…and they're supportive of what I do, but they're just, like, "Don't do that again," and my dad's like, "If she was zipping by you again, would you grab her again?" He was like, "cause I wouldn't, you know." So yeah, so we haven't talked…we don't talk about it too much. My mom was like, "What happened to you?" I was like, "I fell."

Finally, in terms of the role of talking and sharing, several of the informants worked in environments where the welfare of the paid participant or student received a lot of attention but where they felt overlooked. They expressed a desire for and acknowledgement that expressions of concern in addition to opportunities to talk about what they went through would have been helpful. Informant #19 said,

> But I think it would've been nice to sit down. It would've been helpful for me to sit down with, like, the leadership team and our operations manager and David and his wife and, like, check in with each other. We didn't really do that. So…and I know all of us were probably feeling like we were struggling with it in in a real isolated way.

Likewise, Informant #15 said,

> I don't know. I mean, I think it would've been nice for the university to have a…a better structure. One of the things I think was the most challenging was that there was no one on that campus that knew anything about outdoor education. I was the only guy. And so, when an incident like this happens,

there was really not a whole lot of people that I could talk to, to be, like,

"Okay, how do we make sure that this doesn't happen again?" I think that's

one of the biggest challenges of outdoor programming on campus

is…especially if it's a one-person show, uh, you don't have a sounding board

for ideas and…Or a second set of eyes on things, um, and so when I came

back to campus, it was just kind of swept under the rug, and some superficial

things were done to potentially remedy the problem, and then we just went on.

I gathered from some of those in supervisory roles I interviewed that there were debriefing

sessions or other efforts made to address emotional needs of lower-level staff or participants.

However, those opportunities were *not* extended to the supervisors themselves and would

have been useful.

There were also several informants who made a point to tell me when they did or

didn't seek out professional help. One of the informants who sought out counseling indicated

that it was very helpful, that she was able to discuss every decision she had made on the

mountain and work with the therapist to develop an appropriate and rehearsed script for

community inquiries, saying that, "…I didn't know how to handle it for a long time. My

counselor and I worked hard on this." Another informant said that she also went to

counseling but described it less favorably. She said:

And…and so I made an appointment and walked in there and sat down and

told my story to this woman, and she didn't really know….I mean, it was just

kind of like…I remember her being like, "It sounds like you…" just like I

would tell the story today, it was just like, "Well, it sounds like you've

processed it and you're good. I mean, like, what do you need?" I was like,

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"Well, I don't know if I need anything, but I'm…I don't like this thing about

fearing of death."

In certain situations, informants found *talking and sharing* helpful to the coping process. Several informants referenced the support of significant others as helpful in coping. They felt cared for and "nurtured," and said certain individuals were just willing to listen. In some cases, those listeners served as a gatekeeper between the informant and an outside world that might have wanted to lend a helping hand too soon in the process.

There were a few informants who found great solace in a spouse or significant other who was just willing to listen, while others relied on "climbing buddies" or the "climbing community." Informant #4 emphasized the importance of finding friends based on similar passions for the very purpose of support and being able to "count very heavily on friends." Informant #11 shared similar thoughts, saying,

I can't overstress the importance of a good support system as far as friends,

like a very unique group of close friends that continue to be close and

continue to be really real and have a common faith, but have a, um….they're

very intelligent and very, you know, very healthy in their dealing of this and

just the, you know, always willing to listen, always willing to talk, always

willing to process and…and it…it was never, uh, you know, "Put your head

down and get over it…."

One informant felt that time with a counselor was the "single best thing she did" to serve her coping process. I also noticed that in some scenarios in which a group experienced an accident, the party members involved used each other as sounding boards. Not only did they rely on each other, but it served as a shared experienced that became a staple conversation

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piece. For instance, Informant #21 described how he and his friend talk about the accident with which they assisted. He said,

> My partner and I, we talk about it all the time. And…not all the time, but whenever we talk. We don't see each other as much– he doesn't live here–so we only get together once or twice a year. And, then there was a recent accident on the ridge last year. Six climbers died. And, we talked about it then, and—yeah. We talk about it basically every time we meet. It is helpful. Sometimes, you know, coping for some people is just not talking about it, and sometimes coping for people is to talk about it all the time or in meetings or groups. But I don't know if it helps or doesn't help, or if it's just something that we'll probably always talk about. Just because, it's a memory that has impacted both of us quite…you know, definitely, to some extent, big time.

This same informant also wrote a letter to the community. Part of that letter included details about the accident. It was her way of global information sharing. She indicated that it was very helpful in addressing the need and curiosity on behalf of the community to know what happened. She said, "…after I wrote that, I got a lot of really positive responses like, 'Thank you for writing that,' and it didn't stop the grocery store, like, people asking about it, but it cut it down by about 90 percent."

In summary, talking about the accident seemed to be useful for those that had the appropriate outlet, and when they had that outlet, it eased or was a comfort to their stress. B when they were forced to retell an excessive amount, sharing became a source of stress for them. The lack of talking and sharing was also source of stress when others felt they were

forgotten, isolated of their experiences without an outlet to express their own stress and its impact on them.

Relational Strains. The fifth interpersonal subtheme is *relationships strains.* It references the struggles and strains that informants encountered primarily in their marriages or with significant others because of the accident. The accidents did not seem to necessarily always cause the strain but, in some instances, merely exposed weaknesses or challenges of already fragile situations. For instance, Informant #7 shared this,

> that the event happened the way it did, and she began to project what it would have been like to take care of me post-accident or if I didn't come back. I think that she did process a lot of that. I think she questions my decision to go, and then the result, the way it went, I didn't come home victorious. I didn't come home with great pictures and, "Oh, by the way, this horrible thing happened."

In the case of Informant #7, he was not directly involved in the accident, yet his association with the group and his intention to be on that particular segment of the trip caused strain. In other instances, the accident was the sole source of the strain. On the other hand, despite these challenges, many informants felt the strain and challenge served their relationships long-term in that they made them stronger. In the outcome section, I will further develop the idea that the accident impacts developed into something positive. It is my intention in the following paragraphs to illustrate the impacts or source of stress that were initially placed on these relationships and to capture the expressions informants used to describe those impacts.

Many informants indicated that the accident in which they were exposed or involved put strain on their marriage and contributed to negative behaviors like emotional or physical affairs. One informant referred to it as doing to each other, "…the absolute worst thing." Others described a type of strain that was a direct result of having to be a "caregiver" or to be "cared for" by a significant other. There is a great deal of sacrifice that is required to be a caregiver–putting career and other interests on hold–whereas for the injured, it required a sort of vulnerability and dependence that was described as difficult. For example, Informant #16 said,

> So twice a day I had to take the dressing off and out, and then clean it, and repack it with wet gauze—wet-to-dry is what it's called–like you want it to be wet inside the wound and dry outside the wound so it can snuff out some of the unnecessary moisture, and….So, I was dealing with that wound every day and…Heath was allowed to walk, but he wasn't allowed to lift because he had broken two vertebrae. So they were saying stressing his bones was going to help them heal, but not stressing them too much. So he was supposed to walk, but not lift. So I was kind of doing everything for him. Like, you know, there are caregivers who do this for their entire life—I can't imagine it! So, there was [sic] some good things about that. You know, I would get frustrated with his lack of willingness to just walk across the room and get his own damn coffee, or whatever!

For a few of the informants, the accident came early in a marriage, which they felt was an added challenge because it disrupted a phase of marriage that was still new, light, and joyful. For instance, Informant #8 shared this,

I don't think that anyone expects to go through something like that … at the

same time, if anything, it made us a lot closer. That being said, it definitely

wasn't easy. I'm an only child, so I think that I'm very self-dependent. I want

to be able to do stuff on my own, and there were things that she had to see and

do that I hope she would never have to see or do in my lifetime, much less

when you're one year [into] marriage. There were also times where I'm like,

"Hey, I've got it. I've got it. I've got it," and then, I've had to then say,

"Actually, I don't have it; I need your help."

Others described how some lingering issue related to the accident would find its way into

their marriage. For instance, Informant #5 said that because of the accident, it took her a

while to trust her judgment again and how it, "…has actually come up in my relationship

with Eric now, too." Others described how they felt some judgment from their spouse, which

they attributed to an inability for the spouse to relate to the conditions and demands of the

situations. It was a recognition that the other person couldn't possibly understand because he

or she hadn't been there. One participant described how the accident created or significantly

contributed to a bond or feeling that had already begun to develop between him and his

climbing partner. He described that because he saved her life and that they had endured this

traumatic situation together, their feelings toward one another had intensified. He further

described this bond as quite obvious to others and to his wife, further complicating and

challenging a difficult marriage. Another informant described the impacts of her accident on

her marriage. She said,

And so, that, belief for two days, or a day and a half, or whatever it was, that

his wife, the mother of his child, was no longer going to be there was very,

very difficult for him. And then the stress that this accident put on our marriage was considerable. But we have worked through it, and everything, in the end, you know, has made us stronger as a couple. But it was an *extremely* challenging situation. It was one of the most–aside from the actual accident and losing my friend–that aside, it was *the* most challenging aspect of this accident for me.

Marriages or relationships with significant others were not the only sources of relational strains. As previously described, many individuals felt a strain or awkwardness with others in their party because they had never spoken about the accident to one another. Some expected a sort of an apology or acknowledgment, while in some cases conversations with others about the accidents became strained or heated. Informant #8 described some of the difficult conversations he had with a friend about his accident. In fact, later he indicated that his accident had negatively changed his relationship with everyone.

> I think that, for a time, it definitely strained it, um, I think wrongfully, in a way of trying to assign blame to somebody. [I] was frustrated with him because he wasn't there, because every other time he had been there and he chose to climb at the crags with Kyle instead of coming to climb with me, and in fact that is where he got the call…. There is the place where you can get ice cream right before you walk in, and it's a little store, and he actually stopped there at the store, and they were at the store getting stuff when the call came in. I think it put strain on it that there is unfortunately…I didn't necessarily go there to just climb. I went there to climb with Ethan because now there's not as much of a reason to go there. I don't go there as often, so therefore we don't

see each other as much, which I think that, not causes strain, but it definitely

causes distance. I mean, he and I text all the time–I should say from time to

time, not all the time.

Another informant described how the accident impacted or caused a strain to her relationship

with her mother. During the interview, Informant #14 began to cry as she reflected on

conversations with her mother regarding her recovery. She didn't let her mother come to the

hospital to be with her after her accident. She said, "…I just remember, like, the phone calls

at the hospital. Like, she just really wanted to be there, and…and I just was, like I…I just

need to do this alone." Not only did it seem to cause her mother pain at the time, but it was

an issue that was still difficult for her to discuss, and her mother would reference how her

daughter had denied her the chance to help and how that "took away from her healing."

These accounts from informants indicate that in addition to the accident itself, relational

issues further complicated the difficulty of the situation. The source of the strain is

multifaceted and often exposes already tenuous, unstable, or strained relationships.

New Relationships. The sixth interpersonal subtheme involves new relationships. There are

many examples or types of stress informants experienced when discussing an accident with

people hitherto unknown. I have already mentioned in the results from the study those

occasions when individuals felt like there were important, almost urgent conversations that

needed to occur with individuals immediately after an accident. Often, these were in the

context of already established relationships, and individuals felt like they needed to address

or cut off someone who might experience undue blame or the need to get to a friend to tell

her about the loss of her husband.

In other cases, most often linked to fatalities, informants felt responsible for communicating information to the loved ones of the deceased with whom they may have had little or no prior relationship. I have already reported that informants expressed some guilt with being the "sole survivor." But their formation of new connections was not solely or always associated with fatalities or guilt. There were other instances where a participant expressed gratitude about the connections–"keeping in touch" with others as a result of shared experiences of accidents. These new relationships were described as ones "that wouldn't have existed otherwise." The accident became the source, cause, link to, or rationale for responding or being available regularly to the new relationships that formed as a result of the incident. In some cases, one or several individuals who participated in this research became the link between the family and the deceased. In almost all of the cases, these new relationships required a sort of effort to sustain them.

Not unlike many of the other interpersonal subthemes, these "new relationships" were, at times and under certain circumstances, a source of stress, but they also served and contributed favorably to the coping process. First, many informants expressed a desire and felt responsible to be available to the family because they were the last to see their loved ones alive. There are many accounts of this, but the following selection from Informant #9 illustrated this need, the efforts made on behalf of the relationship, and the reflections on its usefulness. He said,

> I told Tim that I have to talk to the families. I have to talk to them in person
> and I have to make myself available to them 24-7-365 because I'm the one
> [long pause] I'm the one that survived [sniffles] and their loved ones didn't.
> So, it's…it's my responsibility to them, because I was the last one to see

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their…both of their loved ones alive, on the face of the planet. I was the last

person to see them alive. You know, as families go, they're going to want to

know all the details, as much as possible and as often as possible. I told Tim,

'I have to make myself available in that capacity,' and he completely agreed,

and he would be right there with me. So what we did was we set up a time

where I would meet with Wayne's's family, by themselves, and I would meet

with Debbie's 's family, by themselves, and just answer any questions that

they had and just basically just go through the same sort of thing that I'm

going over with you, with them. So we did that, and [it was a] really big help.

As a result of these new relationships, many informants described how they would get

together regularly. Often the timing or "triggering" of these get-togethers or "reunions" were

associated with an anniversary date, holidays, or were simply phone calls on birthdays.

Others described the outreach as "ritualistic" and a way to give "purpose" to or "enrich" a

relationship that might not have otherwise existed, while others described how they

"pursued" and had "gotten to know" family members better because of an accident. For

instance, Informant #1 described his and his wife's particular situation. He said,

we would do this annual kind of get-together thing with them and like… you

know Nikki really was - and I think it was its one of those things that Nikki

was the last person to see Cole alive and that always...there's a connection

with the family, with that person, and but that connection remains. And they

were great, you know. They're awesome folks. Um, they're super fun to hang

out with, and, um, they, uh, and it was…it did seem to be really healing for

them, but that continued, like, it continued for…..whew… like, probably we

saw them at least once a year for 15 years. And we, like, we, you know,

specifically get together, and we would, you know, talk on the phone. We

talked via email, you know, not all the time, but we stayed in touch, and that

seemed to be real important. It was really important for Nikki, and it was

really important for Cole's parents as well. And, you know, once in a while

we hear from one of Cole's sisters, so I don't think that relationship would

have existed otherwise.

Several informants described a sort of healing that occurred because the family offered "no

judgment" and that the relationships had been "unwavering." Others also shared about how

meeting with family members and telling them the "whole story" was helpful for the family

members. While these new relationships were a source of healing for all of the informants

who mentioned them, they also acknowledge the difficulty of them as well. I interpreted the

stress aspect to be a direct result of a sort of relationship maintenance. In addition to the time

commitment, informants described these relationships as reminders of the events. Informant

#11 described it by saying,

Yeah, it's…it's comforting, but it's… [there is a] challenge in there too

with… it's hard to, you know, …you relive…you are led to the emotions

every time you see them. So there's…there's a challenge in that, and it'd be

easy to… to not maintain that relationship. But it's important to us, it's

important to them, so…Um, there's…it's still really rewarding.

There was a unique perspective provided by those individuals who voluntarily or as a result

of their paid profession had more regular encounters and occasions to form these new

relationships. The reoccurring nature of the formation of these relationships stemmed from

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the informants' roles in accident response and rescue. In this instance, I gathered that the relationship maintenance was more a source of stress because it was less restorative in nature and took on more of a cumulative or compounding effect. Informant #12 said,

> One of the things that has been really difficult for me is my connect…I…I tend to be the lightning rod, or the connection that a family will have that suffered a fatality or from…a climbing accident. I tend to be their… their conduit for…a connection with the mountain, and over the years, what I found is a lot of people die and you don't cycle through them. You end up just…it ends up a credit, um, in a…like it just ends up accumulating. They pile up. Like, they don't, like, go away, just cycle through. You don't have all these, like, two or three. Just, you're just kind of trailing off contact with. They tend to just keep contacting you/ You're constantly kind of helping people along through their grief, but you never really get anybody to help you along with your grief, you know.

All in all, these informants described these relationships as "doing life together" and as a way to celebrate a life lost or a life gained. Informant #8 formed a relationship with a rescue ranger that assisted in his rescue. He spoke of their new friendship this way,

> …and we also made friends with one of the rangers that was in the helicopter that was assigned to taking [care] of me... and um, he and I, we spent the night at his house, and we hung out, we went to dinner, and I told him thank you for you know, everything that he did for me. And, um, you know, that's been a satisfying thing for me and a sense of not accomplishment but closure to be able to walk away with a friend out of that whole situation….And I can tell

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ya, you know, the stories and stuff that he and I shared together, and that

means something, you know, when I can send him a picture the day that my

son's born and I can say, "Thank you, like, you helped make this happen."

From all of the descriptions informants provided, I got the sense that the results of

these friendships were mutually beneficial and that whatever stress was associated with these

relationships was outweighed by the coping and healing provided. Informant #2 described a

memorial service that allowed family members and the deceased's climbing partners to share

and hear stories about her that contributed to the healing process, saying, "When I think

about coping with it, that was probably the best single day." To borrow from one of the

informants' words, these new relationships allowed for some individuals to "say thank you

and I'm sorry" at the same time.

Written Accounts and Documentation. The final interpersonal subtheme includes *written*

accounts and documentation. I note this last because it specifically addresses a coping

strategy that informants used to communicate about and to deal with stress and the impacts of

their accidents. It has both intrapersonal and interpersonal characteristics. It describes and

captures the numerous efforts informants made to write down or document the accounts of

the accident. This seemed to be an intuitive coping strategy that the informants in this study

utilized because so many of them did it apparently without any encouragement from others.

It also seems to most resemble the confrontational coping style in the WOCQ. In this case,

the confrontation does not necessarily involve people, but the facts and details of the

accident. Informants made frequent references to their "written accounts." They made these

efforts early on–often within days and weeks of the incident. One informant referred to it as a

"write-up, you know, a narrative of the accident," which he wrote within a few days after the accident.

My interpretation is that informants made efforts toward documentation for several reasons. Informants might have written their reports about the accident alone or with others, but in almost all cases, the information was shared with others. First, I believe the process of writing down the details of each of their respective accidents aided the individuals in sorting out the events in a similar manner as journaling. I believe this process offered some reassurance and comfort by allowing the informant the opportunity to gather, collect, and have all the information in one document. Second, I believe that in a more practical manner, informants could reference the details later for confirmation or correction. I will explore this aspect of written records in more detail in further sections because of its direct relationship to how informants coped and returned to their sport. Third–similar to a photo album dedicated to other life markers like children, special occasions, or trips–this piece of documentation signified the importance of the event and aided people in remembering it correctly. Fourth, many of the informants used their documentation to share the information with others. The sharing also took on several forms. Informants could share this information with a party member who wouldn't be able to remember, thus helping in their coping process. The documentation could easily be shared with others who were just curious or interested, with organizations that track and report information about accidents, or for other educational purposes. Two of the informants in this study would have likely been required to write down the details of the accident for work purposes.

Another form of sharing was to use the written documentation as a public statement, which often included sentiments of thanks or as a way to clear up any misunderstanding–a

way to "set the record straight." In some cases, the documentation took on different forms than just words. Several informants made photo albums or referred to PowerPoints that they had put together. Whatever the reasons for this kind of documentation, informants naturally gravitated to it and found it useful. While it seems to be, in some degree, an intrapersonal effort, it also enabled participants to incorporate the documentation into the more interpersonal aspects of their lives and the stress associated with the accident. The following selection of narrative from Informant #3 illustrates the cathartic nature of the documentation and the manner in which she utilized it to share with others and to correct inaccurate information. She said,

> And so I started out, basically, saying, you know, this is my big "thank you"
> to the community, but also here's what happened. And so, I put out a written
> statement–what happened in the accident, why we made the decisions we
> made, and, basically, just the…the bare bones of what happened. And that's as
> far as I intend to go with regard to the rumors. Unfortunately, even the official
> report is incorrect–um, in some ways. In some ways, it's very correct. But, I
> had the…the accident report from the park, and some of the information in
> there is misinformation as well. And there's…that's just the way it *goes* with
> things like this. That community letter that I put in the newspaper and on
> Facebook–it helped a lot because nobody really knew anything. And they
> were all curious. Everybody wanted to know what happened. "What
> happened? What happened?" After I wrote that, I got a lot of really positive
> response like, "Thank you for writing that. Thank you for, you know…" They

just…people really appreciated having some information. [It was] very

therapeutic to write that letter, get it out to the community.

Informant #16 also made similar efforts. Her comments were in reference to documentation in the form of a photo album and how it was later shared for educational purposes. Using the accident as a way to give back became a prominent theme in this study, and I reference it in the outcome section. The account below gives some indication or foreshadowing of those types of efforts. Informant #16 said,

I wrote up a story with photos. I went back to the site three weeks later, so I

guess that was the first time I left him. I went back to grab our climbing gear

that was still in that boulder cave, and I went with a forest service ranger who

was there to accompany me and help. So I took pictures of where he fell,

where he started, where he ended, you know, things like that. And then [I]

made a photo album and wrote captions online so that I had the story captured

somewhere. And then the next closest thing was that one of the doctors in the

trauma center is also a professor at the med school in some ways, their

residents are there—um, he used this accident—he's a climber and an

outdoors enthusiast, so he used Graham's accident as a case study for

something with his students. And [the doctor] asked for permission and then

shared the PowerPoint with us that he used for that class. And I'm sure I can

find that if you want me to share it with you.

These written accounts became a way for the informants to share information about their accident with others for a variety of purposes.

Stress, Coping, and Return to Participation

The fourth organizational category is *stress, coping, and return to participation*. This larger category is devoted to the themes related to stress that accompanied the initial thoughts and behaviors regarding return to participation. Later, in the outcome section, I address "return to participation" again from the lens of more permanent and stable participation patterns relevant to participation in risk-related recreation or outdoor adventure. I do so based on both general and specific applications to behavior the informants made about their participation. In the short term, the individuals who participated in this study described similar reactions and behaviors that they reported as stressful or that in my interpretation initially caused distress or were initially burdensome. There are three subthemes related to this broader category that addressed stress. These include: *when, how, and with whom*; *re-evaluations*; and *distractions to participation.* Also in this larger category, I include two coping subthemes related to return to participation, which include *return-to-site* and *getting back into it*.

When, How, and With Whom. At some point after the accident, several informants were faced with the initial decision about when and whether it was acceptable and appropriate to participate in the activity again. This was either the exact activity or something similar. Equally, they were processing and re-orienting their thinking about risk on a larger scale. I can't say that these two aspects of "return to participation" happened in any particular order, or that one was more important than the other or that they didn't happen simultaneously. For that matter, I don't know how conscious or aware people were of their more philosophical conclusions about participation and/or risk. I do know that for this particular subtheme,

informants pin-pointed and identified the moment or occasion it became an issue. I am introducing this subtheme first because it seemed immediate and more imbedded in small, practical details and decisions that had to made, rather than larger, philosophical conclusions or behavioral or cognitive shifts in participation that seemed more on-going or cerebral.

Participants referenced not only when they might "climb for the first time," "paddle again," and "travel again," but they also had to decide how they would do this–for instance, what level or difficulty of participation with which they were comfortable. They also had to decide with whom they would participate. When I started the interviews, I could not have anticipated the angst that was associated with some of these initial decisions. Later, many of the informants would indicate that despite their difficulty or reluctance to do so, in hindsight, it was a step that was restorative and useful in the coping process–ideas that I will further develop in following sections. For some, the next trip was already planned, so this decision was almost immediate in nature. Several pointed to injuries sustained during the accident as buffers from the difficulty of that initial decision. For instance, one informant expressed a sense of relief that he had an injury that prevented him from climbing for a while so he didn't have to "…immediately address the question of whether I was going to take off climbing because I couldn't do it even if I wanted." Similarly, Informant #22 said this in regards to climbing again,

> One reason, I'm telling myself, is because my hand is still hurt. I messed up one of my pulleys a week before the trip—so two weeks ago. So that's still hurting. I went to the gym yesterday and did a little top roping for the first time since it happened. Definitely was feeling it in my hand. I want to be back to 100 percent. I don't think going out would really help that. I want it to

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mean something. I want it to be…something more than just going out

climbing. I want to…I want it to be reassuring, and … kind of … more

rejuvenating. And that with someone closer to me would be easier to, like,

someone I know more.

Others said no to invitations but then later agreed. Informant #4 described his reaction as

"….at first I said, absolutely not! There is no way I'm going to go down and do anything

right now. I'm having a hell of a time with my mental state, just dealing with day to day."

For other participants, there was little choice. One informant had to paddle the same stretch

of river the next day as part of the recovery efforts. Another informant described to me the

way he debated with himself and fought with his climbing partner about whether they should

continue their climb, knowing that at that very moment in time, his friends were being

rescued off of a mountain. In this manner, whether to participate or not at a particular time

seemed very symbolic. The following narrative illustrates the considerations of when to

return. For this individual, his plans were scheduled the day after he learned of a friend's

death. Informant #4 said,

And I had plans to leave the next day with a friend of mine…and we are going

to go climb four peaks way down in the southwest part of the park…and I

called him that day and told him what happened, and he said if [I] don't want

to go that he understands and all that kind of stuff. And, you know, he knew

Debbie somewhat, and he had hiked with her a couple of times. So I can't

remember how much I debated back and forth about whether I would go or

not, and we finally did. And I think, you know, other people told me Debbie

probably would have wanted that and wouldn't have wanted [me] to stop

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climbing because of that, so we went. I was thinking about Debbie most of the

time, and I still felt good that I was up there doing that, but I remember getting

to the summit of the first one and just totally fell apart totally. I just started

sobbing.

Informant #16 also remembered the factors related to her first climb and the careful

consideration of who would accompany her. She said,

When I went climbing for the first time, I was, like, "This might be the last

time I go climbing. I don't know what my brain is going to be like, and I don't

know if I am going to be capable of…" You know, going into that day, it

wasn't like, alright, "I'm just going climbing, out for a normal day!" My best

friend was in town from Washington, D.C., so I went climbing with her—you

know, like my favorite climbing partner with whom I felt the safest and

emotionally secure. And I went into the day, like, this might not go well! And

she, you know, we were both really prepared that it might be a really bad idea,

and I might have a really emotional reaction and might never do it again after

that.

For others, the first "outing" was for the welfare of others and had a symbolic motivation.

Informant #10 said that he felt he needed to, "…show his face and not be out of the public's

eye too long." In many respects, the accidents that these informants were exposed to led to a

sort of interruption of their pursuit, for some more so than others. The initial or first return

was just one of many markers or turning points related to whether or not they returned to

sport, to what degree, and if in the same form or capacity as pre-accident. I recognized not

only the angst involved in that initial decision but how quickly a re-evaluation process had begun and how prevalent and deep it was.

Re-Evaluations. It also became apparent in the analysis of the interviews that there was stress associated with the fact that these individuals seemed, by default of the accident, to re-evaluate their participation. My impression is that they had to think about what they had been doing and what they wanted to do in the future in context of the accident and to go back to the beginning and start the cost-benefit analysis all over again. It turned their participation, all that was wrapped up into it, on its head. It seemed like a kind of global analysis that the informants went through in order to reconcile their participation. The following paragraphs are devoted to introducing and developing this aspect of the accident experience.

The first phase of this seemed to be centered on participants' initial reactions to the accident, which were often sobering in nature. I believe it is useful to report on the type of phrases that people used to summarize the gravity of the situation. The intensity of these accident situations has already been made evident in the results, and it is not my intention to repeat or belabor. However, the ideas, sections of narratives, and phrases capture what I believe was the "crux" that these individuals experienced. When I asked individuals about their thoughts about the accident and risk after the fact, expressions and phrases coalesced around thoughts like "it was sobering," a "reminder," "wake-up call," and the "frailty of life." One referred to it as a "big dose of real life," and for another is was a "re-enforcer." Informant #22 said,

> I'm still in shock and awe about the whole event. I'm always talking about it–
> the flashbacks, they are strong. Three days later, I still, you know, it was

almost like my heart was dropped out from underneath me. I still couldn't

believe it. We were just hopeful that everyone was going to be okay.

In addition, accidents caused people to consider their own death or the death of someone

else. If risk awareness was on a scale, the accident caused their awareness to move up the

scale. Informant #20 said, "…it left me with a greater respect of the consequences." Another

participant said that it was a "…sobering reminder that even…even as a young bachelor,

your life matters still" or "…so that [accident] was like brutally in my face–I almost died."

Others just indicated that it was the first time they had "seen anything like that in the

backcountry," that it is "sobering to see somebody buried," or that it was the first time they

had seen death on a mountain. Many reflected on the way the accident caused them to

consider their own mortality. One participant referred to this as a "reality check," some

described how it made it clear that "they didn't want to die that way," while others reflected

on how a death brought clarity to the scope of the impacts to others. Specifically, Informant

#11 said,

> I think when Ned died, I realized the impact he had. Being a single guy, he
>
> didn't have a girlfriend. He wasn't married, didn't have kids. He had one
>
> sibling. He wasn't an only child, but how much his death impacted not just his
>
> family and close friends but a much broader circle.

Finally, Informant #17 said,

> I had never…this is traumatic because I had never actually seen somebody get
>
> really physically hurt in my presence. I had friends at that point that had died
>
> climbing or were seriously maimed, but there was something kind of visceral,

and if affected me a lot differently. I'm just in utter shock. My jaw is

completely to the floor.

I gathered that the summarizing statements, phrases, and words captured what the accident

represented–a kind of attention getter that became the source, cause, or origin of the cause for

informants' needs to re-evaluate, question, and re-orient themselves to participation/return to

participation. A second part of the re-evaluation seemed to be centered on if they should

participate again and, if so, on what merit. A crucial element in the stress appraisal process is

the concept of vulnerability. Lazarus and Folkman (1985) define it as the relationship

between a commitment and an expectation. I believe the informants are reformulating their

commitment. I would posit that even for those who knew they would return to participation,

many still went through this mental process. For instance, Informant #22 said that he was

asking himself a lot of questions about his participation because he felt like he had been

putting his friends at risk. He described part of that though process below.

Like, I really have a strong passion for it. So, it's not really, "Should I be?"

It's maybe, "Why am I?" That doesn't feel good. Like, you know, I'm not

sure what I should be doing. Maybe I shouldn't be doing these things, though

a lot of time it's all I ever want to do, and I might say, "Should I be doing

this?" It's also kind of like, I know I'm going to go back to it.

His narrative selection seemed to expose a type of conflict involved in this process. Others

shared how they considered the ramifications of participation to "innocent people" who

"unknowingly get in a raft but don't really fully understand the consequences." Many of

these considerations were driven by the impacts to others. One informant said, "Do I ever

want to do something that extreme that puts other people in harm's way?" Others reflected

on what their respective organizations were asking young leaders to do in terms of making life and death decisions. Others oriented their thoughts toward the merit of risking their own lives for people who "were forced into an environment in which people were confused about what they were trying to get out of their experience." Informant #20 shared his own reflections toward others, saying,

> I just lost the interest in climbing right then and there. And one of the other things I thought a lot about is if ever I were to go back, I would probably be endangering others because I won't be ready to go climbing. When you are not ready to go into that environment, you could easily endanger other people. Your head it not fully in it.

As described above, one aspect of return to participation that was a source of stress was the sobering aspect of the accident. It seemed to prompt informants into a reappraisal or process of questioning about the merit or worth of taking risk to self and others.

Distractions to Participation. The final subtheme is this category is *distractions to participation*. I chose this term to highlight the emotional aspects of the accident that caused an initial change in the enjoyment of the experience. Some of these changes were more general in nature–meaning the overall nature of the experience changed, while some informants experienced more specific changes to their participation due to fear, distracting thoughts, behaviors, and doubt. In some cases, these changes were still lingering or evident at the time of the interviews. I sensed that this was painful, upsetting, and disturbing and that it robbed many of these individuals, at least temporarily, of some of the joy associated with participation. The doubt they were feeling was a type of loss that threatened prior

commitments. For instance, Informant #17 said, "…so I think I have become a little more obsessed with things going wrong than believing…I don't know, it takes some of the joy, at times, out of my life and out of outdoor recreation."

Many of these individuals were years removed from their accident. One participant described how his paranoia seemed to "develop" and "set in" to be long-term. For others, the aftermaths of the accident disrupted their performance, caused a lack of confidence, and led to unrealistic fears, or what I refer to as the "jitters." To some degree, participation did not feel the same, and, as a result, it was distressing, robbing them of the joy they once experienced from participation and, in some instances, causing them embarrassment. These distractions were directly related to the accident. First, many informants described how they were more nervous than normal or would get especially anxious when they participated in the same environment. This could include when they got in the water for the first time, were on snow or on a slope, first in line to ski down, or when those thunderstorms came in. Informant #5 said,

> I know there were times when I started to ski first again, but part of it was
> because I was like, "Well, shit. I don't really know. I'm pretty sure it's safe, I
> think it's safe, but there's a chance it could go."

One participant described his increased sensitivity to thunder on one of the first occasions after the accident, which took place in storm. He said, "…and sure as hell enough, it was one thunder crack, and then we all looked at each other and said, 'You know, it's time to go down….'" Other informants described their early participation as more intense, causing an emotion "I had to get over." In fact, one participant said that his accident had added a level of intensity to everything. He said, "…everything…driving, music, being with friends,

being alone, and my whole attitude." Informant #18 described a different kind of distraction or discomfort. His was based on the need he felt to take a break after the accident. He said, "…I don't want to say that I'm uncomfortable, but I'm uncomfortable not knowing when the next trip is going to be."

For others, the distraction came in the form of fear that they felt put themselves and others at risk. Informant #1 said, "…the end result of the process was how do I get myself to the point where I can participate and not be distracted by this so I could participate fully on board. Because I knew if I was distracted, it will make me less safe out there." He also referred to distractions and the relationship to joy and fulfillment. He called it, "…this specter out there gnawing at me, causing me to not to enjoy what I really love to do."

Some of the distractions were more intense and enduring. Participant #17 described an irrational fear and distrust in the systems associated with climbing. He referred to this as "shameful" and "embarrassing" because he didn't "believe in his own credibility anymore." He said,

> For the first time in my life, it became a big deal. And I don't know, being tied into a rope is way safer than free-soling. And I would just be tied into a rope in an area that was perfectly safe, and I knew that if I fell I would be perfectly safe, but I would questions whether or not it was safe. I started double-checking and going through the traditional means of ensuring safety, but then it got worse and it went beyond that–beyond what is totally safe to what is sort of distracting. And it seems like there is something broken within my ability, in certain scenarios, to …to believe myself.

He described his thoughts as "delusional" and "irrational" and that they "tainted his ability to, like, trust, you know, go through my due diligence and then just go for it." Several informants alluded to the way these distractions would "creep up" or come and go without warning and in a manner they couldn't control. Informant #9 described how his reactions resembled a new or nervous climber one minute and then "an hour later, on a different climb, completely different."

My interpretation is that these distractions served as a gatekeeper of sorts between the participants and the enjoyment they once derived from the activity. In summary, my interpretation was that whatever their orientation was toward risk before the accident, informants had to reconsider it through a myriad of filters. In this section, I attempt to shed light on the aspects of those filters that were stressful and caused an imbalance in what previously had been accepted and solidified.

Return-to-site. The fourth subtheme is return-to-site. It is the first of two subthemes devoted entirely to efforts informants made that served the coping process. It captures the occasions for which individuals returned to the sites or received valuable information about the sites associated with their accident and the usefulness of these visits or information. In other instances, informants made visits to other sites in honor of or in memory of someone else. Initially, informants might have found return-to-site stressful or emotional, but their predominant interpretation was that it served the coping process. There were three primary reasons for these visits. One was to get confirmation about the details of the accident that remained unclear or lingering. As previously mentioned, aspects of the accident that were unclear were a source of stress or ambiguity for the informants. In this sense, returning

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served as a way of "fact-checking." In addition, these visits often were in the company of professionals, close friends, or family. Their participation in these visits was pivotal for some people because it allowed others to experience first-hand the terrain, environment, and conditions involved in the accident. The second reason for these visits was to memorialize the lost. The final purpose of returning was to face fears or just revisit those emotions almost as a measuring stick of progress.

The first reason informants returned was to gain confirmation about details. This confirmation came from either a participant's personal visits back to the site or from others who relayed information. In any event, it was an important part of "fact-checking." One participant shared with me how interesting it was that it was so important for her to get the facts straight given that she didn't feel especially impacted by her accident. Some informants described how park personnel, other professionals, or friends who went back solidified or corrected a piece of information about the accident. One person got confirmation that indeed it did look like a rock came loose. For others it was simply that, yes, the incident was a "big deal." Informant #5 described how she struggled because she, "…didn't have a concept of what size [the avalanche] was or any of that." Some individuals made multiple trips into a site. For instance, Informant #2 said about one visit, "…I have since realized that nothing stopped us…that we fell 800 to 1000 feet down that gully and the natural slope where it fans out. We stopped with the snow as the snow petered out at the end of the avalanche."

During my interview with this participant, she expressed–with intensity and passion in her voice–the significance of having both a close climbing friend and mountain guide and her husband go with her into the accident site and to see the route they had intended to climb. It was reassuring to her for them to see the complexity of the terrain and recognize the

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difficulty of what she and her partner had experienced and what she experienced on her own in those two days. She said it was "extremely therapeutic" to understand, to see, to recognize. Working through the details with an experienced professional mountain guide helped her shed light and solidified a lot about what had happened during the avalanche–how far they fell and what likely occurred with protection. It also provided her friend and her husband with knowledge that, in turn, enabled them to "recognize and see and understand where we were on the mountain, what that terrain looked like, how complicated and difficult it was."

Others stated they needed their "perception to be reality." Individuals expressed some distress over stories that might change, in having multiple accounts be "congruent," or in being able to share or tell the story inaccurately. As I previously reported, documenting an accident was also a useful coping mechanism. The data checking that resulted from these site visits further allowed individuals to accurately prepare that kind of accident documentation. In a similar manner, some individuals referred to the usefulness of seeing the injured. In one scenario, an informant made repeated visits to the hospital to witness the recovery. Another went to the airport to see injured individuals return home. In reference to this, Informant #8 said,

> Watching [them] come off the plane and projecting, "Gee, that would have sucked if that was me…" I don't know if it was healthy or unhealthy, but that was the most stressful part. I don't regret doing it; I don't regret being there at all. It kind of…it was kind of some closure from the last five, six, or eight days reading about the climbers from home who were at the army hospital. I mean, I think there was some closure in getting them home.

Another reason individuals returned to accident sites was to memorialize or pay tribute to their friends. This memorializing certainly occurred at the actual accident site when possible, but in other instances people memorialized regularly in other settings besides the actual accident spot. Sometimes people planned special outings or climbs to memorialize someone. One informant explained how locals had renamed a gully after the deceased. Others left frequent messages at summit registries or annual hikes. Several of the informants referenced a memorial climb, the date that it occurred, and who was in attendance. Whatever the environment, informants found that type of remembrance to be a useful step in the healing and coping process. Informant #1 associated the mountains in his backyard as the more obvious place to deal with the accident, as opposed to where he was when he heard the news. He said, "…and when I got back here, I was going to have to start dealing with all that stuff because now I am here in my own backyard and I'm looking up at the mountains where Cole was killed." For one friend who was killed overseas, family members and friends spread her ashes at a lake in their home state in a national park, which became her "memorial site." Informant #2 described his visit there this way,

> We went to what was essentially Debbie's memorial site, which we now have
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> waypoints for, and I want to say it was 2010. It was getting close to two years
>
> of the accident. It was clearly unbelievably meaningful for a least… me and
>
> Tim to be there. Once we realize that this was the spot, Lucas and Tim and I
>
> just broke down just sobbing. At the same time, I think that took all of us by
>
> surprise a little bit, probably because it had been almost two years by then.

Other informants described visits to sites with family members or a visit down "the river where it happened" as a way to "relive it mentally a little bit." These events seem to take on

the same form as a funeral or any other memorial service. They involved remembrance, celebration, and grieving. Informant #19 said that the memorial in which she participated caused her to realize the burdens others were carrying for a loss of life.

Finally, informants often went back to test their skills or nerves. One participant went back to the accident site on multiple occasions–often to participate in her sport again. When she described the last occasion to me, she indicated that she could tell she was getting more confident in her abilities. In other cases, went back to reflect. One participant described how little emotion she felt at the time she went back, but the act gave her some perspective she didn't have. I got the impression that some wanted to see if the place was as they remembered it. Informant #20 said,

> One thing that was interesting, this…this last fall, maybe…maybe a month ago, I went out and climbed the…a route in the same formation, a slightly easier one, a little bit to the left of it. But it was interesting to go back and look at it, you know, and my climbing partner who I went with that day, he knew that I had been in an accident up there before. But I don't know if he knew how much I was thinking about it, but it was interesting to go and, you know, kind of try and look for rocks and trees that are still vivid memories from…from three years ago, like you know, some things I couldn't quite find. Some things looked exactly as they…as I'd remembered it.

There was something almost sacred about these accident sites. Informant #8 described his return visit to the part where his accident occurred. He said,

I think it was helpful to be able to go back, and I didn't have to stand at the

top to feel like I conquered it, but that the road to recovery to me was

complete when I went back and just kind of said goodbye.

Many informants made visits back to the actual accident site or used other sites as a way to

memorialize a friend. In other instances, informants needed to see it again for themselves, to

remember, to analyze, and evaluate their own emotions or skills. It is useful to compare these

informants' efforts with recent airline tragedies. In all cases, these airlines fund travel for

each family member, when possible, to visit the accident site or the airport where their loved

one last was. This seems to be a useful and intuitive step that accomplishes or eases several

aspects of stress.

I gathered from the interviews that, despite the stress associated with the return, trips

to the same site, with the same people, and participating in the same activity actually was

more helpful than a hindrance in the recovery process. The role of leisure as a coping

mechanism for a variety of life difficulties is well-documented in the leisure literature and

seems to be stable even when leisure is the source of the pain or stress.

Getting Back Into It and Positive Reappraisal. The final subtheme is this category is

getting back into it and positive reappraisal. This captures both behavioral and cognitive

efforts toward participation. In many ways, it is hard to distinguish between coping and

outcomes. Often, they are one and the same or occur at the same time. This theme most

closely resembles the aspects of positive appraisal in the WOCQ, in which individuals

reappraise a situation in a favorable light.

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Behaviorally, I noticed that as informants began to participate again, one of two things occurred. Either the passage of time brought about healing or recovery specific to participation enjoyment, or participation pulled people out of depression, apathy, or PTSD symptoms. Informant #5 said, "…getting outside, like skiing, helped me so much and just being active. Even though it happened skiing, I wasn't afraid to go ski and because I was injured, I had to take it easier anyway." I also noticed that when informants went back to full participation, it was as much for those they had lost as it was for themselves. One participant who initially resisted a trip said it ended up being, "…a tremendously uplifting kind of experience that sort of brought me back into life parity" This participant and others described how their leisure involvements served as "objectives" or a kind of "focus" that they needed. One participant described how getting outside, being active, and skiing helped so much. Finally, Informant #4 shared how focus and personal objectives related to desires "saves people". He said, "…it was the focus…personal objectives that can carry you out of…the stare…in this case, the nightmares into a new future, your bright future."

More cognitive efforts toward reappraisal included how informants attempted to put the accident into perspective and how they re-oriented their position to the more positive aspects of participation once again. In the beginning of the results section, I described the efforts informants had made already in regards to risk perception before the accident. During the interviews, I asked them to reflect on their opinions about risk before the accident. As anticipated, it was difficult for the informants to distinguish between their thoughts immediately after the accident versus at the time of the interview. One informant admitted that he was probably making it sound like he was more thoughtful than he really was at the time of the accident. I did sense that informants made efforts to be forthright about their

interpretations about risk at the time. As a result, their comments reflected their new approaches or thought processes pertaining to participation post-accident. Their thoughts were often general, like a realization of not being invincible, taking more time to mitigate risk, or devoting themselves to figuring out how to enjoy a particular activity so as to avoid the same negative outcome. For others, there were new philosophical statements focused on the value of participation, like, "…the difference between fear and being paralyzed by something and having a healthy respect for it." Informant #17 said the following,

> So, I think, I need to…I want to make good decisions. I want to enjoy life and enjoy God's creation without running unnecessary risk. So, then you have to kind of start putting my activities on a scale and try to weigh what is okay and what is not okay. And it can be kind of a difficult thing sometimes because there is risk you can control and risks that are just not possible, that are out of your control–like environmental concerns. It's like all I want to do is live in a bubble, but that's not really living. But you could do it. You could quit climbing, and you could wrap yourself in Styrofoam and only eat organic. But it comes down to death is a part of life. I think, probably, the answer is the benefits and the joy of moving on rock and being in the outdoors far exceed the chance that something bad would happen.

With similar sentiment, Informant #11 said,

> The act of kayaking is a source of real rejuvenation for me more than anything else, which I think is why I never demonized it in my own head. Like, when I need to get my head on straight, like, going out and paddling something is where I feel closest with the Lord, and that it really therapeutic for me.

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Informant #13 acknowledged the risks, the dangers, and how the accident showed the "potential outcome," but said that he "…felt pretty good about rationalizing that and thinking that this is what I do, who I am, and I am willing to take that risk." These statements are quite distinct from the sobering feelings informants initially associated with the accident. It is as if informants had gone full circle. They had dealt with the negative aspect and had re-appraised it as good. When I asked Informant #7 about how much he talked about the accident, he gave the following reply,

> I am sure I told my dad and some of my climbing buddies…it was something that I kind of buried. Like, it was bad, and I didn't like the feelings, so I tended to, you know…I knew that I still loved the outdoors and I still loved climbing. It was a sort of evolution mind-set.

Other informants just recommitted themselves to being more careful. Informant #13 compared risk in the mountains to risk in the city. He said, "…there is still mitigating risk at some level, and I guess for me, the risk reward is way higher in my mind." Others seemed to organize the causes of accidents in their minds, comparing accidents based on bad decisions to those that happen due to "dumb luck."

This particular theme is most relevant to those individuals who had a desire and intention to participate again. These statements or re-appraisals are general in nature. I believe they also bridge the gap between stress, coping, and the judgment outcomes informants took from the accident.

Outcomes

The final major category in the results section includes outcomes. There are five themes related to outcomes from the accident. These themes are: *relational gains*, *change in worldview*, *markers and shapers*, *giving back and positive reappraisals*, and *judgment moving forward*. Lazarus and Folkman (1984) refer to outcomes as the primary purpose of stress appraisal and coping. They also refer to a type of adaptational outcome. The three kinds of outcomes include functioning in work and social living, morale and life satisfaction, and somatic health. I narrowed the scope of interest to include outcomes related to participation, which would include participation that is satisfying, social relationships associated that also might have been impacted by the accident, and judgment.

In many ways, these outcomes developed first as a source of stress or as part of the coping process and evolved into an outcome. This indicated or suggested that the results of an accident can't always be divided into stress, coping, and outcomes, but often the whole experience is multi-faceted, with numerous and intersecting layers, i.e., what at first may seem stressful ends up aiding in the recovery. It would have been easy to present these themes in a more linear form–right after their stress or coping counterpart–but I have chosen to present what I interpret as the more long-term or enduring results of these accidents together if for no other reasons than that they illustrate the favorable aspect of "good" that came out of an unfortunate situation and those that were less favorable. The less favorable indicates to some degree the long-term nature of stress and impacts. As the coping literature indicated, many people refer to tragic instances as the best thing that ever happened to them. Several informants in this study said they were happy that the accident happened to them and not someone else that didn't care as much. In addition, one of the principal research

questions of this was to study understand if and how people return to participation in light of stress caused by accidents.

Relational Gains. The first outcome theme, *relational gains*, deals specifically with relationships. I have already reported on the occasions in which informants gained new relationships that had already or were proving to be long-term and sustainable. For the most part, informants viewed these new relationships as a positive outcome that has also been a source of coping. In addition, I provided evidence that accidents caused strain or stress to existing relationships. The particular theme of *relational gains* deals specifically with the numerous accounts that relationships with significant others and recreational partners who were a part of the accident were made stronger as a direct result of the accident. This might not have initially been the case for all of the informants, but the overwhelming majority deemed it the case as they reflected back on the accident. I also briefly note the examples that deviated from that norm.

There were only two instances in my study where this was not the case for individuals involved in the accident, and my interpretation of this is because there was not a strong relationship or basis for friendship to begin with or there was too much ambiguity about the cause of the accident and, as result, there were lingering questions regarding blame. As I mentioned, some already-strained marriages broke, already-informal relationships faded or ceased to exist, and one informant indicated that when two individuals were not impacted the same, the accident served as an impasse as one person internalized and reacted one way while the other went in a totally different direction.

In every other instance, informants said nearly the same thing–the accident made them stronger. Friendships with recreation partners who witnessed or survived accidents were made stronger. Friendships that endured and shared in the loss of a friend were made stronger. Marriages were made stronger. These accidents and the impact became shared experiences or created bonds that brought informants closer to individuals already in their lives. Sometimes the accident would provide a new reason for a friendship–often the remembering and celebration of a life that was lost. Many informants would describe the difficulty that the accident caused to a relationship and then immediately follow it up with qualifier. For instance, Informant #8 added to his expressions about the difficulty to his marriage by saying that, "…at the same time, if anything, it made us a lot closer." Informant #6 said,

> I think it may have had a slightly positive affect in that it was just a huge undesirable, traumatic event that happened that we both kind of lived through and lived to tell about those things that, I think, have a tendency to bring people together just because you're both identifying with a shared experience.

Other informants described how it became a point of reference for relationships. Informant #1 described how long-term it strengthened his relationship with his wife. He said,

> Man, if we can get through that, what are we not gonna be able to get through? And I mean, it's certainly been the basis of helping us work through other things that we've struggled with over the years, as well, because it's, like, "Okay, we can do that; we can do this; um, we just got to put our nose to the grindstone, and we have to do the hard work.

Finally, informants also referred to the way accidents would strengthen or provide bonds to groups of individuals operating within the same social world. One informant shared about how a particular accident caused fellow mountain guides to "watch each other's back" or "look out" for one another–treating each other like a family.

Change in Worldview. The second outcome related to this theme is *change in worldview*. This is a general term I chose to capture changes in broad perceptions about life that seemed directly related to the accident and that didn't exist before. This theme could easily be considered a stressor as well. The informants in the study were quite astute to the changes they were experiencing and often expressed concern over it. They recognized that it was happening and it was disturbing, or they would say that it "bugged" them. I chose to introduce and describe it in the outcome section of the results because of its more permanent, rather than temporary, nature. As I already presented, there were immediate changes and reactions to specific pursuits that often did dissipate or lesson as individuals became more engaged in their activity again. In some circumstances, those impacts to recreation pursuits were more long-term. I will present these ideas later.

In contrast, *worldview* deals with impacts that are also long-term that seem to permeate many facets of the participants' lives, not just their risk-related recreation pursuit. The following narrative from Informant #14 illustrates some of these ideas. She said,

> Sometimes when I sense things are going to happen, I have an acute…like my awareness is, like, more keen, and I might be more alert. …I have to kind of tell the demons to go away, like, on a plane, but even just … driving or being out with the kids… I'm hyperaware. So my judgments would be very

conservative, you know, like … boulder hopping. Actually, I don't care to

jump on rocks.… I remember I used to like to scamper on things, but I don't

care to do that anymore. Like, I feel like they're slippery and they don't have

enough traction and…And I just don't care for things…like that…anymore.…

I just think I could get hurt if I do that. It's gonna make me a little bit more

cautionary…like those things aren't fun anymore. I don't like swimming. I

mean, I do a lot of swimming, but I don't… if it's close to something…. I

think I'm now on the other side of risk adverse.

Informant #8's comments illustrate an overall orientation toward risk. He said, "[The

accident] causes me to be overly risk-adverse–even in my work. Like, I have an opportunity

to go to China in January, and I stressed over whether I was going to go or not." Other

informants indicated that, overall, they had become more "curt" and impatient with people

who made excuses, that they experienced an overall sense of "anxiety" or "doom," or they

felt as if the world were not a safe place, but a dangerous place. Informant #3 said, "…but I

didn't have the same level of fear about things. And … it's not like I have a ton of fear. I just

have a heightened awareness of the rest of the world is not safe."

I specifically asked about long-term repercussions. One informant described her fears

of dying, mortality, planes, and car crashes. She indicated that her husband was aware of her

"trepidations" and that it was difficult for her to be in positions of authority at work–"to be so

strong and to be so insecure at the same time." The following quote from Informant #10

shows how these accidents put other things into perspective. He said,

Or when you tell your even younger son, "Yeah, it's okay to go trick-or-

treating tonight with your friends," … it's a reminder that even if you dot all

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the Is and cross all the Ts you either… forget to dot one I or something completely out of your control happens and bad things can happen. It's a reminder that life is fragile. I mean, I could get cancer tomorrow; you could get cancer tomorrow. …it didn't add any solace in that category at all.

Others described how the accident had caused them to question their overall judgment in all aspects of their life–as if they couldn't trust their intuition anymore. Some informants describe how they had developed "weird paranoias" and "irrational behaviors" that they felt confident were "tied in" to the accident. Informant #5 said in reference to the concern she had with her overall lack of judgment, "…at least, trust that [my judgment] is good. I don't ever know that it is good, but I at least have some confidence that it is good. That feeling of not knowing, and really being afraid that I am making good choices, that stuck with me for sure–and not just with skiing."

Not all of the changes in worldview were negative. Accident exposure made others feel more appreciative of the frailty of life or to think differently or more responsibly about being a parent by interjecting their children into their current situation in a very emphatic manner. Others just treated life more cautiously as whole. Informant #17 said,

I think that all of my experiences have been sort of near-death or traumatic experiences [and] have sort of helped to reshape my…my respect for life–not only for other people's lives but also for my own. So, I don't want to live in a bubble. I wouldn't want other people to live in a bubble, but there [is] just kind of a healthy balance between making good decisions to keep yourself around. Because life is precious. I think it is incumbent on us to not just be

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willing to throw our lives away. It kind of makes me feel old to think about it all.

Similarly, Informant #16 said that,

I think long-term, this accident had the most impact on me, personally, and the way I think about life and death and the fragility of life, and making the most of every day, and making the most of relationships, and being more quick to reconcile, and, you know, things like that.

For some informants, their involvement with the accident caused them to have to redefine their identity. One participant described his sense of loss and how the accident forced him to let go of some images of or dreams for himself that he realized would not become a reality. It forced a kind of honesty. The following narrative illustrates how informants were able to overlay the accident on their lives as a whole and draw conclusions. Informant #7 said,

There is a certain point where you realize you're 32, 33 years old, and you're probably not going to be a professional baseball player; I'm probably not going to be a surgeon. There are certain doors that start shutting. You're told your whole life, "Well, if you really want to be, you can be anything you want to be." There was definitely some definition that happened, where I went, "Probably not going to be a mountaineer." So, that, "I'm probably not going to be a mountaineer," started kind of opening up some of those others: "I'm going to have to start being content with who I am." There was something to that. "I'm probably going to be a backpacker, probably not going to be a Major League baseball player," at the time, "I'm probably not going to be in

the happiest marriage that I ever thought it would be." That was a big dose of real life, but real life doesn't have to happen at that mountain level. Real life can be having a two-and-a-half-year-old and trying to figure out how to bring a marriage back around, how to be content with a job that I felt very anemic. I think that was probably the biggest crisis–me not realizing life is valuable. It was, "I may not be that guy. I always wanted to be that guy, I thought I was that guy, and I needed to try to be that guy." My trying to be that guy was a giant failure; not only was it a giant failure, [but] there was this thing that happened.

Markers and Shapers. In a similar fashion, I was surprised by the numerous references to the way accidents had become *markers and shapers*. Informants described how the accident was a marker for some change in attitude or perception, change in life trajectory, and/or it shaped or further reinforced a passion or interest they began to pursue more passionately or intently. While this is similar to the preceding theme, the informants' changes in worldview were often negative in nature, while the markers and shapers represented a more positive association with the accident. The first narrative selection captures an overall change in perspective about life. Informant #17 said the following,

I'm almost 40, and I'm finally going to become a professional. I like to look out for my family. I'd love to be around to be able to help shape and mold and have life experiences with my children and with my wife. It just means a lot more; I think it means a lot more to me now … it's far more valuable to me

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than the thought or the benefits I might get going out climbing some rock

without a rope.

In other instances, the accident marked the first time someone had lost a friend his own age,

or, in more general terms, it left one informant with the "pretty profound realization that

people can get erased from your life really quickly." For another informant, it marked the last

time she smoked pot because of the association she made with the lack of trust in judgment

involving the accident and lack of judgment she felt when smoking. She said that while

skiing down from a ridgeline after the accident, "…I could not evaluate whether I was safe or

not, and I remember being terrified."

For others, the accident seemed to be the shaper of an overall philosophy or

appreciation for the educational aspect of the outdoors that they were now able to articulate

more clearly. One informant said that she felt there were no short-cuts allowed in the

outdoors. She believed that the care that must be given to self and others was more authentic

in nature, whereas in other settings was more contrived. This individual was rescued in a

very remote setting where emergency locaters were less common. She attributes her rescue to

the attentiveness and good decisions of those around her. Since then, she has become quite

passionate about emergency medicine and very vocal about being overly reliant on cell

phones and other forms of technology in the backcountry. In essence, she felt like that she

was lucky that the accident happened to her and not someone else who didn't care about

these matters as much. She said that she felt like an "ambassador" and that the incident

"rerouted" her life and that she has "strong shoulders [for] the message."

There were many others who indicated that their accident influenced or "confirmed" a

career trajectory–some toward graduate school–and some said they felt more driven after the

accident and more focused. One informant took his own incident, which he attributed to a flawed teaching model about teaching judgment in the backcountry, and began a research agenda in order to improve it. Finally, Informant #11 said, "…it definitely … confirmed my pursuits of emergency medicine. And that incident definitely propelled me toward paramedic school. It was definitely a pivotal… day in my life."

Some informants attribute other life directions to the events associated with the accident, such as the desire to move away from a place, apply for a different job, or the realization that they wanted to relocate to a particular place. One of the informants in the study was just a week from his accident. He expressed similar ideas, such as focus and direction toward his career. I do not know how sustainable these feelings were or will be for him, but the rest of the informants were referring to things that they had once dreamed of or envisioned that had since come to fruition.

Giving Back. The next outcome subtheme is giving back and positive reappraisals. *Giving back* refers to the manner in which the informants used their experiences to contribute to the greater good. Some of these efforts were more private and included gestures of gratitude toward those who contributed to a rescue. In other situations, these efforts were specifically related to a new cause or focus at work. In some cases, people gave back by way of public events in honor of someone else, but with the intention of educating or entertaining. In some cases, giving back became quite extensive. One informant had dedicated himself to engineering and producing a new piece of technical equipment. In the following paragraphs, I will reference and describe these efforts while connecting them to the accident in which the individuals were involved, when relevant.

People used a variety of methods and avenues for giving back. Many said the idea was simply having the opportunity to be there for someone else who was also facing the impacts of a wilderness accident. Many informants referenced their role as either volunteers or paid educators and how they used the accident to educate and inform so that others would be safe. One informant indicated that the subject matter associated with his accident had become even more "elevated," and that when he went back to teaching, he was more "empathetic" with people than before because of the accident. Informant #9 said that his accident affected him in such a way that, "…I wanted to make people aware, more so than I've done before as a teacher–to teach them that mountains are serious business." Words like "give," "impart," or "educate" were used frequently. What was most striking about these accounts was the informants' vulnerability and the amount of ridicule they risked, for the sake of others, all because of their association with the accident. For many, it required them to admit to a "mistake." Informant #5 described the frequency with which she tells new skiers about her accident. She said,

> when it's wintertime and I'm out skiing with somebody that I haven't skied with before or doesn't know the area, I will point out to them where the avalanche was and talk a little bit about it. Not very much, usually, but I will … dive into it. I've done it with clients, too, and it's kind of a funny thing, because part of me worries about them thinking I'm not competent or … that I don't have good decision making, or that they'll think less of me, or they'll be worried …. a lot of that goes through my head, but I will consciously choose to point it out to people. I owned the fact that I made a mistake and I almost died.

Two informants described how their own stories with accidents made them more relatable and gave the topic of risk management or accident avoidance a more personal and real aspect to it. In their minds, they were better able to communicate that "it could happen to anyone" if it happened to them and were able to appear less invincible, which only served the students. Others expressed their commitment to mentor other young adventurers or felt that because of their relationship to an accident, they were in a position to contribute because it had been beneficial. Informant #14 said,

> I remember being so mad at, like, "I fell off a cliff," like this fear of why is this stuff happening to me. I just remember that I decided I … wanted to become a wilderness medicine instructor to teach people because my life had been saved by people who took action. And so that actually [was] what started me pursuing becoming a wilderness medicine instructor, as a way of helping others be successful because I'm here. I have my legs because of decision-making, and so that was really empowering. So, I teach, and I still teach to this day. I love telling my story to help people … to take action.

Many informants described their devotion toward an association or a cause that came from "very personal regions." Informant #10 became very focused on one aspect of climbing. He said, "…I am pretty focused on making sure that climbing education and climbing signals and climbing protocol in the United States are consistent and well-taught." His example trends toward some of the larger-scale efforts individuals made directly related to their accidents.

One of the most striking examples that connects attribution of cause to long-term outcomes is the contribution Informant #9 made to others. He was involved in an accident in

which the cause was unknown. He spent a good amount of time attempting to analyze and

arrive at as many possible causes as he could. He ultimately came to the conclusion that it

had to be some kind of equipment failure. He has since researched, engineered, designed, and

sought funding to produce a new and improved piece of technical equipment. He has named

the equipment in honor of his two friends that were killed and designed a logo that is

reflective of their passions. He described it this way,

> one of the good things–if you can call it a good thing–that has actually come
> out of this is after the accident, I started thinking about more along the lines of
> equipment and what I could do to improve any piece of equipment that could
> have possibly contributed to an accident like this. So what can I do to make it
> different? What can I do to improve upon it that has never been looked at in
> 60-something years? Since that time, [my] primary focus [for] about a year
> and a half [has been] doing all kinds of research and drawings and prototyping
> and that sort of thing.

Finally, other forms of giving back included extensive efforts to create slide shows as gifts to

family members of the deceased, hosting events in memory of someone, or writing or

performing eulogies. Informant #9 revisited what he had experienced on the trip, prior to the

accident.

> The other thing that was kind of a really big help was that I took, on that
> whole two-week trip, about maybe 500 pictures. So when I finally got home, I
> took about three weeks off from work, and during that time it was just a lot of
> talking, a lot of resting, and things like that. But during that time period, I also
> went through all 500 pictures, and what I wanted to do, for the families, was

to create … for each of [the families of the deceased] a photo album. I picked

out all the pictures of [the deceased] for [his] family, and I picked out all the

pictures of [the deceased] for [her] family. When I met with the…each of the

families, in the photo album, every single one of those, every one of those

pictures I had blown up to be 8 by 10. So when I went to present them, or

when I went to talk to them, I presented this photo album. And oh my God,

the response was just… I can't describe it. They were so incredibly thankful

that I did something like that for them and to [have something to] remember

their loved one by. And to see them react like that helped me a great deal. It

was just… it was a very good thing.

All in all, the process of giving back seems to continually serve the coping process for these

individual as they find ways to make good and serve others out of an unfortunate situation.

Judgment Moving Forward. The final outcome theme relates to the more long-term

impacts from the accident on participation. This participation can include the specific activity

associated with the accident or some variation. One of the driving research questions of this

study dealt with the influence of accident on future participation. I asked informants if they

continued to participate in the activity associated with the accident and if they ever

considered ending participation. Only a few had made what I would consider significant

changes to his or her participation, and one individual was essentially disengaged from all

forms of outdoor recreation. Many informants expressed how they had scaled back, were

more cautious, didn't climb as hard, or paddle as difficult of water. Some of this was due, in

part, to the accident, but the lesser degree of participation was also influenced by other life

stage factors. As I previously reported, several of the informants indicated that they were not sure if they would continue participating and/or allowed themselves time to heal and re-evaluate. One informant took several years off before he climbed again. A few indicated that they still hadn't ultimately decided, even though they were currently participating at the time of the interview. For instance, Informant #9 said,

> I thought about that actually quite often, where I'm not… doing this again. Well, I wouldn't say that it actually has ended … because of the accident and because there's always this struggle. There's always this struggle of who I am and what I've been through–meaning I'm always wanting to challenge myself. I need to challenge myself, but you do it smartly. … I can never just plop on a couch. That just doesn't work, so because of that, I have this conflict of what I've been through and … the kind of person that I am. So that's why I say, it really hasn't ended because I'm really not sure yet.

Others, perhaps the majority of informants, were quick to report that they never considered giving up participating in their pursuit. I also specifically asked individuals if there was anything from their accident that they carried forward or felt was a new strategy, a rule, or judgment they applied to participation. Since many informants were years removed from their accident, I refer to these responses as outcomes. This one accident is not the exclusive source of information that they had considered or that they will use for consideration in the future. However, when I asked this specific question, their answers seem to fit in one or two categories based on the level of specificity they provided.

I have already reported that there was some initial stress associated with risk re-evaluation. Informants first considered the sobering nature of the accidents, considered the

costs to themselves and others, and experienced fears and distractions to their own participation at least in the early stages of participation. Beyond that, it seemed the feelings or thoughts pertaining to risk and return to participation transitioned through three phases or levels. The first level or phase included the very general, more philosophical statements that I described as "re-appraisals or re-orientations." These were somewhat stressful but, more so, represented a kind of coping or effort toward negotiation. They were statements about risk reward.

In the following paragraphs, I will describe what I interpreted to be the next two phases of accident application. The second level of application included more general application statements that the informants seem to attribute as a change in behavior toward participation that stemmed or could be traced back to some aspect of the accident. The final level of application was a series of very narrow and specific statements. These types of application statements were directly related to the assumed cause of the accident. Collectively, all of the levels of re-evaluation, re-appraisal, and judgment seem to be cognitive efforts that provided the informant with the resolution and confidence needed to participate again. Lazarus and Folkman (1985) would suggest that this mirrored the primary, secondary, and reappraisal cognitive appraisal process.

For instance, several of the informants indicated that they had applied more general risk-related principles their participation. Some of these included a heighted concern about issues that were a factor in the accident scenario. These included statements about "evaluation partnerships better" or "taking much more mitigated risks." One person described a weighing of the outcomes against the rewards before exposing himself to risky behaviors for the sake of his children. He said,

I owe them for me to be here longer, and so [I'm] balancing. If I'm going to

do things of risky behavior, the outcomes have got to be great. And, you

know, just paddling to expose myself to the risks, to get that type of clarity, I

think I get that [in] other places now.

This same individual indicated that he quit doing risky things in his recreation. Others

described a different alertness or awareness in certain considerations like winter over summer

conditions, attributing the winter to more "objective" hazards. One informant described his

efforts to be more selective in whom he allowed on his courses. Another used his particular

accident as the start to "incorporating other people's accidents into my own personal

judgment equation–personal or professional." An individual who was both a recreationist and

a professional talked in general terms about the need for rescuers to pay more attention so

their–and his–safety isn't jeopardized. There are numerous other examples of how informants

reflected on their particular accident and referenced some general safety considerations. For

instance, Informant #6, who fell because he was too close to the edge and in an area that

pushed the comfort and skill level of his partner, described his application this way,

I think in general …, in my climbing, I am probably not as eager to get kind of

to that edge point where I'm at my limitation or close to it and where I'm

really … pushing the boundaries of kind of what I'm doing or who I'm you–

where I've asked somebody else to go with me.

Other general applications include an individual who fell due to belayer error, and, as a

result, he said he was more fearful. It had to do with faith in his belayer, so, as a result, he

climbed easier routes when he experienced less confidence in his partner. Some of these

somewhat general but close associations include an individual who experienced an accident

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on ice and said, "…getting on steep, icy slopes, I think I'll always get a little anxious." An individual who experienced an accident in an electrical storm said, "…I'm a little more sensitive to it, and those situations warrant being very wary and, you know, getting out of that area."

The third type of application was very specific in nature. It is what I referred to in the interviews as the major "take-a-ways" or changes in "judgment." I have picked five examples that illustrate the manner in which informants seemed to pick one specific aspect, often the one factor deemed most significant, and used that to make a behavioral change.

The first example is from Informant #1. The accident he shared about involved an avalanche. The individuals had poor visibility and could not see the danger above them. His judgment statement was,

> …one big learning I took away from Cole's accident [and death] was you need to know what's above you when you're climbing, and if you can't see it you should at least have to stop and really think hard about … "Should you be there?"

The second example is from Informant #3. The accident she shared about also involved an avalanche. The climb she and her partner attempted took longer than expected. They were caught in a bad storm, had to stay the night, experienced environmental illness due to the changes in weather, and had to retreat. During the descent, they were caught in an avalanche. Her judgment statement was as follows,

> So I no longer will go out on a major climb like this if I only have a one-day window. I'm just more particular with regard to when I climb things. Now the conditions need to be ideal, or I'm not interested.

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The third example is from Informant #9. The accident he shared about involved a slip on steep snow. He and his climbing partners were un-roped. One fell and inadvertently pulled the other off. The informant does not ultimately know what caused the initial slip. He has determined that it likely was equipment failure. He stated,

> Because of that experience, along with trying to figure out what exactly happened to Wayne, [I felt like] this is … absolutely the most important piece of equipment anyone could ever bring on any trip…even in the summer, I carry this with me.

The fourth example is from Informant #11. He was paddling with a group of friends when one of them got his boat caught on a submerged rope, was pulled under, and drowned. They were paddling on class-five rapids. His judgment statement was as follows, "I haven't done much class-five since then."

The fifth example is from Informant #16. She and her husband were climbing in a remote area. They got caught in a storm and retreated the quickest way out. On the hike out, he slipped on a wet rock and fell 200 feet. She assigns some of the blame to her fitness level and fatigue, which she attributed to them being caught out late in the day. She noted,

> … I'm a lot more cautious about longer commitments of time and energy…. if it's going to be a full day, then I'm only going to say yes if the weather is perfect—if there's nothing predicted that could change. Weatherwise, I'm a lot more cautious. I'm a lot more willing to just go climbing next to the road. …I mean, I still love long alpine climbs, but I'm more prone to do easy, long alpine climbs instead of hard, long alpine climbs. And, shorter approaches, closer to the car—I guess I value the big adventure less than I used to.

To summarize, it seems that at least some the informants draw close parallels between the factors associated with their accident and their efforts to avoid similar scenarios. It is easy to connect the importance of attribution of cause to the formation of the judgments or practices. As I already outlined in previous sections, informants spent time thinking about, analyzing, reliving, and working to come to conclusions, even when they didn't have enough information to do so. I believe it was a form of coping or negotiation that resulted or evolved into more long-term practices or principles. Correctly or incorrectly, informants identified what they felt went wrong and developed a strategy so that they could feel good and in control enough to participate again. These examples, both general and specific, seem to bring the accident to some kind of resolution for informants, which, in turn, helps them move forward.

Before I conclude, two informants made more significant changes to participation. In both cases, the cause of the accident they were associated with was quite ambiguous. In the case of Informant #8, he was traveling on a rope team on a glacier at the time of the accident. The rope team was made up of some acquaintances and some strangers. When I asked him about future participation, he said, "…I won't rope up to anyone." Informant #7 was associated with the same accident. At one time during the interview, he said that he had determined to be a backpacker and not a mountaineer. Even though he indicated that he had no plans for future mountaineering, he did say that he had considered the parameters if he were to participate. He said,

> … I'll never say no; I'm not going to say no. It would have to be organized differently, and it's not that I would have to be in control. I would have to be a lot more engaged in the details. I would have to be in agreement with sort of

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my "go/no-go." … I didn't feel like we'd had the details set up the way I

would want them.

These same two informants were the least experienced in the pursuits associated with their accidents and as a result, the accident played a very pivotal role in their decisions about future participation. Informant #7 said,

[In reflection] I was, like, had we made it [without incident] no one would

have ever said anything. We wouldn't be having this conversation and so

many things would be different and we would've been on … second and third

mountains all by now. But because it did happen, then that's where their

criticism comes in. But there's plenty of people who go and take unwise

choices in their outdoor experiences.

Informant #8 made similar comments. He said, "…I think if the first trip would've gone better, I would've been on the mountain. And clearly we probably would've summited, and this may not have ever happened, and I would probably have some mountaineering dreams."

Several informants also alluded to accidents having a compounding effect on judgment. For instance, Informant #4 described it this way, "…it's just cumulative…doses of reality of the adventurous kind of things that put you in danger, and little by little these things start putting your risk equation in a little better balance." Other informants with similar expressions said things like "little increments" or how every experience, good or bad, added something to the "quiver," "like layers of a cake," "a rippling snow-ball effect," or "compounding" and "little things that sort of add up."

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As I already reported, the informants already had a healthy and realistic interpretation of the risks associated with their individual pursuits at the time or immediately prior to the accident they shared about. In addition, I reported that many of the informants described their accident as sobering or as a wake-up call and that many had some fears or jitters related to their return. In addition to philosophical re-orientations and the more general risk applications, one final facet of return to participation was related to the factors of the accident that seemed to have long-term impacts on participation. In terms of long-term judgment, the "take-a-ways" were very specific and narrow in application. It is my interpretation that much of the stress and efforts made toward coping relevant to documentation about the accident, the replaying of events, talking and sharing, return to the site, confirmation from others, and the need to attribute a cause all worked together to allow these individuals to draw specific conclusions from their accidents in order to move forward.

Concluding Remarks

One of the purposes of this study was to discover and report on what seemed to be the common or shared experience of stress, coping, and outcome across all investments levels of informants. In addition, I hoped to identify variations in these categories based on differences in investment and the proximity/severity of the accident. It seemed that various forms of stress or impact coalesced around three major spheres. The first sphere included internal thoughts and emotions relevant to factors of the accident, like the visual images and sounds the informant remembered or reflecting on his or her own performance. The second sphere included stress or anxieties around discovering the cause, coming to terms with that cause or outcome, and then a kind of risk evaluation. The third phase included interpersonal stress or conflict that the informants experienced from some aspect of the accident.

I also was able to identify features of the accident experience that could be a source of stress and serve the coping at the same time, depending on the situation. For instance, talking and sharing was, for certain people and under certain conditions, helpful, but in other instances it was a significant source of stress. These conflicts point to some of the difficulties or challenges informants experienced in their coping process. I also identified other coping strategies and efforts informants used to ease or lessen stressful impacts. In addition to learning about what efforts informants made after the accident, I was able to ask those who were more removed about what they might do differently or to identify the single-most helpful thing they did to cope.

Some of their responses included the following: (1) returning to the accident site sooner to get confirmation, (2) getting engaged more quickly in the pursuit they loved and finding recreational objectives sooner, (3) interacting sooner with those who attempted to reach out, (4) being able to share openly without judgment, (5) having access or the means to reach out and connect with people who had experienced a similar accident, (6) accepting the situation sooner and avoiding "what if's," and (7) seeking out some form of professional counseling. One informant expressed that she wished she had known someone to talk to that had "navigated something like" what she went through. Similarly, Informant #17 said, "…but having matured, and looking back, it might have been good to find somebody to talk to … to dialogue about my experience instead of … being affected and haunted by them, while at the same time concurrently burying them."

Finally, I was able to identify the way in which these informants moved forward in their lives after the accident. One area of interest was specific to their participation in risk-related recreation or outdoor adventure pursuits. Almost all of the individuals made some

subtle change to behavior as a result of their accident exposure, and even though some felt

differently about it, they maintained that the reward outweighed any costs. These accidents

did leave a mark. Sometimes there were ever-so-slight reminders of the accident that

negatively impacted their enjoyment of life–like "impending doom" or "paranoias"–but for

the most part, these individuals were able to use the accident as a way to reappraise many

aspects of their life: professionally, personally, relationally, and recreationally.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

One impetus for this study was to examine the full range of impacts that ensue from varying degrees of exposure to wilderness accidents and the variation in response based on prior experience and levels of investment in related pursuits. In addition, this study attempted to address some of the limitations of prior studies and expand on them. To date, journalistic and scholarly work had focused on the perspectives and impacts to family members, significant others, and on recreationists themselves due to participation, associated fear, sustained injury, and death from extreme and elite forms of mountaineering. This present study attempted to include and consider the perspective of the more general or common outdoor recreationist, to consider accidents that occurred within the backdrop of a variety of pursuits—not just high-altitude mountaineering—and to consider a mixture of perspectives based on varying relationships to the accident. In essence, the intent was to broaden the scope in order to make some inferences about the shared experience of stress, the most useful and common forms of coping, as well as related outcomes.

The stress-coping model was used as theoretical guide because of its proposed relevance to constraints literature and its inclusion in studies within outdoor recreation. The model components, in particular the influencing factors, seemed most relevant to the contextual focus of this study. Within the model, personal commitments, along with situational factors, are believed to influence the stress-appraisal process. Lazarus and Folkman (1985) emphasized the stress-appraisal and coping process more so than the manifestation of any one type of stress over another. They indicated that defining stress only as a stimulus or only as a response leads to a normative assumption that certain situations are

always stressful. A full understanding of stress is further limited by individual differences in stress response. Lazarus and Folkman's (1985) description of the dynamic nature of stress seemed relevant to the results of the study. They said, the "concept of a dynamic state points us toward important aspects of stress processes that might otherwise be missed, such as the resources available for coping, their costs, including disease and distress, and their benefits, including growth of competence and the joy of triumph against adversity" (p.3). The interest here was not to assume that all accidents would be equally stressful but to ascertain when and under what conditions they were perceived by some people as stressful and for what reasons.

Certainly there was evidence that the human response to and impact from these accident encounters mirrored what might be expected from any painful, devastating, or traumatic life scenario. However, a broad contribution of this study is the meaning or relevance of those responses in context of the leisure phenomenon or experience. I attempted to determine in what ways stress, coping, and outcomes related to the accidents were unique, exacerbated, less supported, or more difficult because of involvement with the relevant social worlds. Finally, if difficulties were identified, in what manner could they be understood, addressed, or better managed to the benefit of the recreationist? In the remainder of the discussion and conclusion section, I will first present what I considered to be major findings. Secondly, I will address limitations to this study. Third, I will present some practical and managerial suggestions and conclude with some recommendations for future studies, including those related to emergent themes.

Major Findings

There were various contributions of this research, some of which are organized neatly around the stress-coping model components. In general, the stress-coping model provided a theoretical framework to compare the results from this study to the perspectives of Lazarus and Folkman (1985) on psychological stress, appraisal, coping, and adaptational outcomes. The major findings will be presented in five sections. The first is an overview of the usefulness of the model. The second is based on the concept of stress and emotions. The next three sections will introduce contributions that relate to the essential ideas of the model components. The final section addresses the cathartic benefit of the interviews.

The first contribution from this study was the applicability of utilizing the stress coping model to understanding individuals' responses to wilderness accidents. The stress coping model has been supported empirically since introduced first by Lazarus in 1966 (Schneider & Stanis, 2007a). In addition, it has been thought to be applicable to studies in outdoor recreation settings, although it has not been used to understand wilderness accidents (Peden & Schuster, 2005; Miller & McCool, 2003; Schuster, Hammitt & Moore, 2003). At its basic level, situations are appraised as stressful based on the interaction between personal factors and environmental conditions. The appraisal process, along with coping mediates the emotions participants experience and the intensity of their stress. The management of ensuing emotions is considered a short-term adaptational outcome. Long-term adaptational outcomes deal with stress or the management of stress on subjective well-being.

In general, the model was useful for systematically investigating the wilderness accidents in this study. There were several facets of this present study that seemed to illuminate or contribute to ongoing research in several of the model's component areas. One

such example is in the area of reappraisal. Lazarus and Folkman (1985) described the reappraisal process as one that occurs based on new information from the person, the environment, or both. Stress from an accident and its appraisal unfolded in a myriad of situations that went far beyond the accident itself. Opportunities for reappraisal occurred when informants shared their story with others, replayed it in their own minds, and/or documented it. They also had occasions to receive feedback, confirmation, or insights from others about the accident. In addition, there were certain social situations that were initially deemed stressful and then later assessed as positive. For instance, many informants experienced apprehension about how a family member would react to them as the sole survivor of an accident. Significantly, they later discovered that they had developed meaningful relationships with these individuals. The informants also had occasions to reappraise their participation as they gained more information or clarity about the cause of the accident. In addition, as informants began to participate again in their respective pursuits (post-accident), they reappraised their participation based on the internal and external feedback gathered over time. There were many lingering emotions related to the single accident event. To illustrate this, informants themselves seemed to methodically reconstruct the accident event during the interviews. In Chapter IV, I described the detailed accounts the informants provided and their affect during the interview. The informants pointed to emotions and feelings, similar to those felt at the time of the accident, that were "brought up" by revisiting the details surrounding the accident.

In contrast, there were several themes that emerged in the analysis that the model didn't account for as thoroughly as others. Several of these themes seemed significant factors in the overall impact of the accident. For instance, the model does not adequately address

social factors in both stress appraisal and coping. In a published article, Folkman and

Moskowitz (2004) review methodological advances and pitfalls. One of the areas they

identify as less developed pertains to social aspects of coping. In Chapter IV, I identify

several social relational factors that both served and inhibited the coping process. This is an

idea that I focus on in more detail in this chapter. The model also doesn't seem to give as

much attention to factors that make coping difficult. I also elaborate on this in more detail.

Lazarus and Folkman (1984) do identify three types of constraints: interpersonal constraints,

environmental factors, and degree of fear/threat, but this aspect of the model seems less

developed in comparison.

One of the more compelling features of this study was the manner in which one event

seemed to start a chain reaction of other situations so deeply connected to the accident. One

such example is the manner in which stress became compounded or exacerbated when

participation in outdoor adventure had become a significant source of meaning and identity

to the individual. The model appears to treat stress conditions as isolated events. Perhaps the

model was not intended to deal with how such events lingered and manifested themselves in

related situations over time. It was not clear if the model accounted for any intensity that

develops from the compounding of highly connected events or situations. In this study,

however, it seemed germane and significant. There were many relational and social layers

evident in the lives of the informants that became prominent factors in the way stress rippled

out from one singular event into multiple situations. The accident had ramifications to so

many areas of life. A plausible explanation for this is that informants' participation in

outdoor-adventure pursuits was a central rather than peripheral aspect of their lives. In

Chapter IV, I reference the way the informants felt judged or evaluated based on their

execution of skills. Many of the informants had weak support from family and friends. Some had leadership roles that put them in the limelight; others were known to hold strong outdoor recreation identities by co-workers and fellow recreationists. On occasion, the trips in which these accidents occurred were intended to be pivotal for relationships or for the next step in skill/professional development. In summary, the model seemed an inadequate depiction of the degree or intensity of stress, the connected nature of stress, and the duration of stress that emerged as relevant in this study.

Lazarus and Folkman (1984) described the stress appraisal process as dynamic, but I believe their intention is to describe the relationship between person and environment in the appraisal process, not necessarily the connections and linkages between stressful encounters. Lazarus and Folkman (1987) do make brief mention of the manner in which ordinary stressors become products of life events. In addition, they describe an unfolding nature of encounters. Future research could uncover if there is any compounding element to stress when numerous situations are rooted or find their origin in one event.

Stress and Emotions

The second contribution from this study suggests that a pre-determined definition of stress would have limited or narrowed the understanding of the scope of stress as it relates to wilderness accidents. The accident was the single event that started a chain of reactions or responses whereby stress reverberated into other areas and facets of life. Lazarus and Folkman (1985) point out that the term "stress" has been a "catch all" for many angles of inquiry and research in the past. In addition, the term "stress" is relevant to more modern and developing areas of research focus. Many of the emotions associated with various definitions of stress were also emotions described in this study.

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Previous studies on user conflict and hassles used the stress-coping model in outdoor recreation settings in a variety of ways. To determine the manifestation of stress, Schneider and Dawson, (2000) asked respondents to indicate stress through a dichotomous yes/no. Schuster, Hammitt, Moore, & Schneider (2006) created hypothetical scenarios that respondents could indicate as stressful or not. Johnson and Dawson (2004) used pre-determined wilderness characteristics and asked hikers to indicate satisfaction or dissatisfaction as a determinant of stress, whereas Miller and McCool (2003) used single-item questions to assess level of concern and degrees of stress for conditions or experiences that detracted for the quality of the experience. Others used a 21-item checklist on hassles relevant to specific outdoor-recreation settings (Schuster, Hammitt, & Moore, 2003). Peden and Schuster (2004) incorporated an open-ended approach for users to identify stress related to resource, social, managerial, and personal expectations. In all of these studies, the scope of interest on stress was specific to time, place, and experience. In the present study, the manifestation of various forms of stress was not bound to only the immediate experience during and immediately preceding the identified accident. That method would have limited a comprehensive understanding of the scope of stress associated with these events. Various indicators of stress were identified, many of which surpassed the time and space of the accident itself and proceeded to permeate into the cognitive, relational, and leisure spaces and identities important to these individuals.

In terms of approaches to measure or identify emotions as indicators of stress, Miller and McCool (2003) used negative-affect descriptors in their primary appraisal of experiences and conditions that served as detractors in outdoor- recreation settings. There are 10 negative descriptors associated with the PANAS scale: "scared," "afraid," "upset," "distressed,"

"jittery," "nervous," "ashamed," "guilty," "irritable," and "hostile." This present study supported the use of the negative emotions as relevant indicators of stress. However, this instrument alone would have failed to make any connection with the many areas and facets of life that seemed to be impacted, the corresponding emotion, and the reason for the selection of that particular emotion. For instance, if an informant were only able to indicate that "nervousness" was a corresponding emotion with the accident, I would not know that the emotion of nervousness was associated with social situations in which the individual felt bombarded by questions and blame linked to his or her affiliation in a variety of social worlds. I might mistakenly assume that the individual was nervous when he or she was in a similar outdoor environment. The many layers of facets of stress that resulted from the single accident event were complex, interrelated, and multi-faceted. The qualitative nature of this study and subsequent findings revealed that, at least in the case of wilderness or outdoor-recreation accidents the informants described, it was hard to determine a clear beginning and clear ending to the stress associated with the events.

A related conclusion related to stress was to bring to the forefront the prevalence of post-traumatic stress or more disturbing or traumatic associations with accidents experienced by individuals. There is literature within adventure recreation that has documented the link between outdoor-adventure pursuits and stress and that provide suggestions or techniques to support clients after a crisis or traumatic situation in efforts to minimize post-traumatic stress (Davis, 1998; Berman & Berman, 2002, 2005). There is some debate or evolving thought on the need for and effectiveness of debriefings. This particular study included individuals who were not a part of a formal or organized program and who would not have been supported by a facilitated accident debrief and, thus, offered a different perspective.

In a recent and relatively unique study, Wu (2013) compared the experience of deployed soldiers with high-altitude mountaineers. He described how both face similar stress situations regarding the high-risk environments in which they are engaged and the consequences of interactions in those environments–namely death. Despite the similarities in experiences, he concluded that in comparison to deployed soldiers, there was scant research regarding the long-term impacts of stress to high-altitude mountaineers, and neither the mountaineers nor their families had very much in the way of support or resources.

In many ways, the results of this study supported and illuminated many of these similarities and highlighted their relevance to general recreationists as well. One very powerful force or factor associated with the experience was the visual images and sounds regarding bodily damage and trauma. It seemed that these were intensified with the severity of the accident and even more so when there was potential for accidents that resulted in a fatality. These experiences seem to correspond with reported critical-incident stress-like symptoms (Davis, 1998). On occasion, the individuals claimed to have lingering impacts that mimicked phobias. These individuals often had to consider death or severe injury to self or others, even if these thoughts were temporary or fleeting. On some occasions, the informants in this study considered their own death or the death of others related to accidents they did not observe. In addition, they often had to make decisions under extreme pressure in difficult conditions, often alone and without resources. After the accident, not all informants felt like they had suitable outlets to discuss what had happened to them or others. As stated in the results section, my impression was that some individuals identified their reactions as post-traumatic stress and others drew parallels like, "…but, I do have this tiny little trepidation

thing, and, I mean, it's … to put it in a big category like PTSD is maybe inappropriate, but it is related…."

In conclusion, the results of this study revealed that these accidents elicited emotions that stemmed from reactions to extreme situations (death or fear of death) to those associated with more of the ordinary daily hassles or irritants.

Cognitive or Stress Appraisal

Lazarus and Folkman's (1984) position on stress centers on the idea that determination of stress and corresponding emotions is a process that involves cognitive appraisal and coping. They also posit that individuals make judgments about stress based on the person-environment relationship. They believe this process is essential in understanding the variation of responses between comparable stressful encounters and responses. The appraisal process is influenced by the relationship between environmental conditions and characteristics of the person. Person factors include commitments and beliefs. Stronger commitments are associated with the likelihood of stress, and beliefs influence perceptions about coping.

A *third contribution* of this study is that it helped magnify the relationship of highly invested individuals as a factor relevant in the stress appraisal process. In this study, I chose to consider seriousness toward pursuits and specialization as indicators of level of investment. More importantly, level of investment provided an explanation for why these events were stressful. The results of this study revealed that informants referenced and compared themselves to high standards. In addition, for many participants, these accidents were a source of personal embarrassment. This stemmed from their associations or identities

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within their respective social worlds. In context of the accident, informants compared either their role in the accident or their incident response after the fact to various standards or performance expectations they perceived as the norm. In addition, informants were recognized and, to varying degrees, well known for their involvement in these types of risk-related adventure pursuits. As a result, the accident threatened their reputation as skilled outdoor-recreation participants. It would only be natural to think through a myriad of "what if's" and experience regret over decisions that seemed irrelevant at the time. However, in this case, there were some informal or formal expectations, standards, or protocols these individuals measured themselves against correlated with their involvement and investment in the affiliated social worlds. Therefore, a unique contribution of this study was that it provided insight into the way informants held themselves to such a high standard and relived, replayed, and reimagined their particular role in the accident response. There were also strong corresponding emotions, all of which created distress and complicated the coping process.

A *fourth contribution* is the study revealed the more prominent concerns informants faced about future participation. Previous studies asked participants to identify reasons for continued participation or return to participation in spite of fear, death, and loss they may had either previously experienced or recognized as a potential consequence of participation. In general, people often highlight the meaning of the activities and the enduring rewards believed to outweigh any costs. Stebbins (1992) had concluded that rewards became motivating factors for "serious participants" and the impetus for continued participation in spite of costs. In this study, I observed that informants concerns about "return to participation" seemed to be rooted in the reflections they made, or were in the process of

making, about with whom they were participating and for what reasons. Importantly, as informants pondered whether or not to participate again, they considered the possibility of bringing about injury or harm to others. I described in Chapter IV how informants described the accidents as sobering and "wake-up calls"—accidents really do happen. They also reflected on the emotional harm or injury they had witnessed or observed. These post-accident musings often led to a sense of guilt or regret.

Almost all informants described worry or anxiety when considering their potential role in causing harm to others, regardless of their role in the accident. These ideas were exacerbated when informants felt they were operating in informal leadership roles, when they had initiated a particular trip, or when they perceived themselves to be more experienced or skilled than those with whom they were participating. In other instances, some informants were responsible for the safety and well-being of others based on their formal professional roles and obligations. In this case, their professional roles and organizational missions weighed heavily on them as they pondered the impacts of accident on people under their charge. Wu (2003) described a similar situation with how deployed soldiers operated based on a belief or adherence to a just cause. It is noteworthy that similar feelings are evident among outdoor recreationists who assume risks to enjoy and fulfill leisure interests. The outdoor recreationists and guides in this study were heavily burdened and reappraised the merit or worth of participating or leading trips with others in the future.

In this regard, the study results helped identify the source of future-oriented fears. Lazarus and Folkman (1984) explain how primary appraisal is based on harm/loss or threat to financial, occupation, psychological, social, and physical stakes. They also identified fear as type of constraint that makes coping difficult. This study shows that intrapersonal constraints

arose as informants thought carefully about his or her particular role in causing harm to others. Yet informants engaged in what some leisure scholars call constraints negotiation. Stated differently, appraisal and copying led to behavioral change. Many informants mentioned efforts they would or had made in regards to recreational partners in response to these concerns. This carries some managerial implications not only in context of potential accidents and accident response but in risk assessment during participation.

Coping

A *fifth contribution* of this study included the ability to compare the most prominent coping resources noted by the informants to the way in which coping responses have been clustered and categorized in prior studies. Lazarus and Folkman (1984) describe coping as process-oriented based on appraisals and reappraisals as person-environment situations shift. Coping is initiated based on harm or threat to commitments and goals. Coping has both behavioral (problem-focused) and cognitive (emotion-focused) components, and involves any efforts that individuals make to manage stressful conditions.

The coping mechanisms used by informants in this study seemed to be consistent with Lazarus and Folkman's (1985) distinction between emotion-focused and problem-solving-focused coping and with items in the WOCQ. In addition, many of the coping strategies corresponded with Miller and McCool's (2003) substitution typologies. Another type of comparison provided by Folkman and Moskowitz is between *efficacy expectation* and *outcome expectancy*. Efficacy expectation describes how a person might feel he or she has identified behaviors to address the person-problem environment and is equipped to successfully carry out those behaviors. For examples, in Chapter IV I describe the way in which many of these informants were already equipped with good risk-management ideas

and practices. They indicated they were already taking steps to mitigate and manage risk. Post-accident, many identified specific skills they needed to brush up on, attempted to work backward to identify factors that contributed to the accident, and then fashioned new behavioral strategies to avoid similar scenarios in the future. In this manner, I believe the informants had some ideas about steps they could take to minimize their anxiety about similar encounters.

On the other hand, I did not conclude that informants were able to easily identify all the strategies that would be useful in managing other stressors associated with the accident. *Outcome expectancy* refers to a person's evaluation that certain behavioral efforts will result in certain outcomes. The informants mentioned several things they did that helped them cope, but I believe it was only in retrospect that they recognized them as helpful. They may well have done them intuitively, but some of the coping efforts identified in this study– "return to site," "personal documentation," "confirmation or analysis from professionals"– seemed to be efforts based more on trial and error. As a result, the informants' coping efforts expand on those that might be more commonly considered. Several coping strategies were identified that might be useful in helping people cope under similar circumstances.

A *sixth contribution*–and perhaps the most interesting conclusion from the study was the identification of factors that made coping difficult. As noted, Lazarus and Folkman (1984) identify certain environmental conditions that can thwart or challenge coping. Folkman and Moskowitz (2004) advocate for a contextual approach in order to evaluate coping processes in the specific stressful contexts in which they occur. This study revealed that there are certain aspects of involvement and identity with the social world relevant to risk-related recreation that makes coping problematic. It is my intention to present these in a

list format and then expand on some not already addressed in subsequent paragraphs. *First*, the individuals in this study held themselves to a very high standard and compared their performance during the accident to protocols, standard practices, or norms commensurate with their pursuits. Only a few who had been trained actually felt energized or equipped for the task-orientated nature of the accident, while most felt the demands of the situation usurped any prior training for a variety of reasons. As a result, they were self-critical and were not quick to forgive themselves. Several indicated that they should have forgiven themselves sooner or worked harder to accept the situation rather than reliving and re-imaging scenarios that led to regret.

Second, informants experienced criticism or judgment from like-minded individuals, the community and lay people, as well as the media. *Third*, informants had difficulty finding outlets to discuss and process their experience with individuals with similar backgrounds or with a knowledge base that enabled them to relate. The unintentional, yet dismissive or nonchalant reaction from others, who in comparison had no context or perspective about the environmental factors related to these activities, only led to further frustration and alienation.

Fourth, those individuals who had professional obligations or who were further removed from the accident were unintentionally overlooked or assumed themselves to be on the periphery of the accident. As a result, their impacts were neglected or these individuals felt like they had no right to the information or to express their own emotions. Perhaps their own emotions or information useful to their own coping would have been construed as trivial. *Fifth,* many informants who described post-traumatic-stress-like symptoms did not seek professional help and of the two who did, only one found it helpful. *Sixth*, it seemed that the individuals who participated in this study felt a strong allegiance or adherence to protect

the image or impression others might have about their particular pursuit. They wanted to promote and communicate about those pursuits in a manner that substantiated them as safe rather than harmful. They also did not want to jeopardize the support they had earned from significant others or to contribute to pre-existing fears or apprehensions. As a result, they might have been reluctant to be as honest or to draw attention to the difficulties they were experiencing. It is also possible that, despite good intentions, the informants were constructing and presenting narratives based on motivations, previously held attitudes, and from what is available to their conscious state.

Seventh, some groups or parties were more equipped to collectively deal with stress and the factors associated with the accident than others. Whereas most individuals who shared in the accident experiences reported that ultimately it strengthened or bonded pre-existing relationships, some individuals felt resentment or anger toward their recreation partners. Relational issues remained unresolved. *Eight,* ambiguity related to the cause of accidents proved difficult and disturbing to some informants. Informants gave indications that they relived these accidents over and over, often in an attempt to determine exactly what the cause was. Many arrived at several conclusions that, in my observation, only exacerbated an already difficult scenario. For some, it was only after they received an accident report or were able to fill in the pieces based on confirmation from professionals that they felt they had the "map" they needed to move forward.

A *seventh contribution* of this study was that it illuminated the social and interpersonal conditions that became factors in the accident aftermath–conditions that seemed to create social difficulties and foster relationships that were actually conducive to coping. In essence, this study brought identification to the many relevant social layers–including

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family, friends, the local community—the larger social world associated with risk-related recreation pursuits, the media, and so on. For each social category or layer, there were insiders and outsiders. Some were equipped and able to understand, while others were not. This was clearly evident as individuals described the impacts of the accidents and efforts to cope or manage stress associated with those impacts. Many informants described the exhausting nature of questions pertaining to accidents. The informants attested to the difficulty in explaining the complex environments they were in and how details would just "get lost" on individuals who could not relate. Ironically, the same individuals who often shared common interests and who were in the best position to be empathic were often publically critical. Tight-knit communities wanted to be involved and then demanded information, often in a manner that left informants physically and emotionally drained. In summary, informants struggled for privacy and felt exposed. In other instances, relationships were a source of help, comfort, confirmation, and reassurance. Folkman and Moskowitz (2004) identified social factors as a developing area of interest within coping studies that had previously been overlooked based on emphasis to individualistic approaches. The following pictorial model (figure 3) is intended to illustrate the many relational and social layers that either served or inhibited the coping process. In many instances, as informants had encounters with individuals at these various levels, stress was exacerbated.
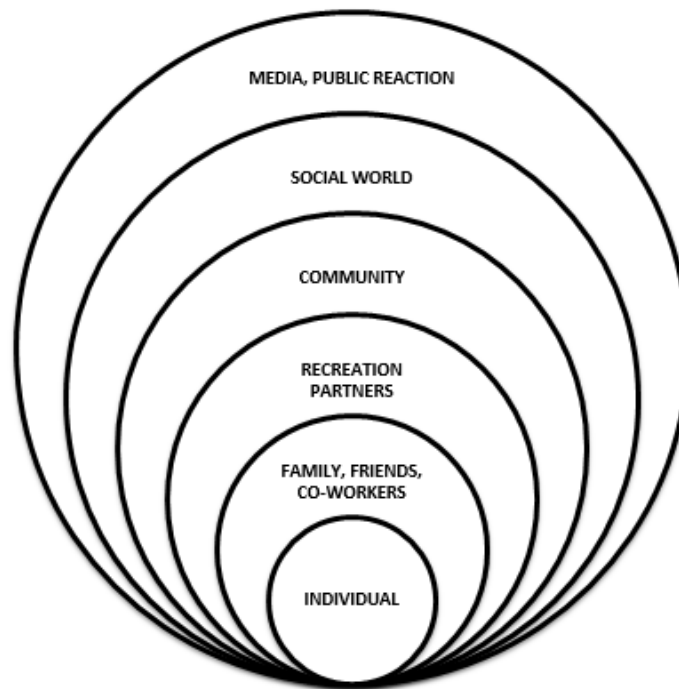
Figure 3 Layers of Social/Relational Considerations in Stress and Coping.

Short- and Long-Term Adaptational Outcomes

An eighth contribution is the manner in which this particular study provided

perspective on the potential for accidents to become major and pivotal life events. Lazarus

and Folkman (1984) observed that overall quality of life is affected by how well individuals

are able to cope and adapt to stress. Results of this investigation showed just how disruptive

accidents could be to short-term and long-term social functioning, and to physical and mental

health. As noted, accidents provoked lingering emotions, which festered over time. To be

fair, many informants lacked the resources or knowledge to manage them effectively.

Informants often relived and replayed events surrounding the accident; accidents were

discussed with significant others, often resulting in strained interpersonal relationships. It is not surprising that informants were fearful and apprehensive about participating again. Significantly, many of the informants I interviewed were as many 15 years removed from the accident. Nevertheless, they attributed phobias and feelings of "impending doom," These feelings were not just associated with their participation in his or her pursuit but manifested in the whole of their lives.

On the other hand, there was consistency in the way informants described the accident as instrumental in other more positive life changes and directions. The majority of the informants described how the accident ultimately strengthened or deepened interpersonal relationships. In fact, several informants indicated that they were glad it happened and it had positively impacted their life. One of the major themes in the results sections was entitled "markers and shapers" because of the frequency in which these kind of references were made. Folkman and Moskowitz (2004) included *perceiving benefit* and the search for meaning as a developing line of inquiry regarding emotion and positive psychology. The results of this study contribute valuable insight in this area. In sum, the accidents left an impact and changed the individual in a manner that they perceived to be both good and bad. By understanding the short term and long term consequences of accidents, I believe recreation managers, caregivers, academics, and fellow participants will increase their sensitivity, awareness and perhaps empathy towards those who have experienced traumatic events during participation in outdoor adventure and for those who put their lives at risk for the recreational and educational enjoyment of others.

Cathartic Benefit of Interviews

A ninth and final contribution of this study is the realization of the enduring nature of the impacts of these accidents and the cathartic benefit of the interviews. The point here is not to draw attention to my role as the interviewer but, rather, the usefulness of reoccurring occasions to discuss and reflect back on the accident. This study revealed the type and intensity of impacts and unresolved issued that seemed to be a factor well after the initial impact of the accident. There was every indication that these accidents had changed the nature of the leisure experience for informants, not only in the activity associated with the accident, but, in some cases, others as well.

In addition to the impacts on the individuals' recreation experience, the results pointed to the contexts and occasions that these individuals ignored, buried, or let lingering effects become a hindrance to moving forward in many areas of their lives. Despite the time that had lapsed between the accident and the interview, these accidents remained a significant factor in the lives of these individuals. Many alluded to an on-going debate about participation in their pursuits; others were still experiencing distracting or troubling fears or paranoias, not only in their lives, but also during recreation participation. Other informants still had unresolved interpersonal issues that caused some degree of pain.

The individuals I interviewed expressed appreciation for the nature of the questions and for the opportunity to participate in the research. All of the informants expressed sincere interest in the results of the study. I was surprised by the immediacy of their follow-up responses and the depth of the answers they provided. There were many occasions when these individuals indicated that I had asked them something they had not thought of before but that was beneficial to consider. Many also admitted that something they were sharing

with me was the *first time they had shared it with anyone*. A few noted some benefit derived

from preparing for the interview, while others suggested that through our discussion, they

had gained some clarity or new insight. On other occasions, the informants alluded to aspects

of an accident or interpersonal issues that they had never uttered or spoken out loud. For

instance, one individual said, "…this may be the first time I have ever uttered these words

because I feel like I am in a safe place I can." Some indicated that our discussion or interview

was the first time they had been able to share their experiences from start to finish. It led me

to conclude that the interviews served some cathartic or therapeutic end for the individuals

who participated in this study. Phrases like, "…it's kind of interesting for me to look back

and see how it affected things" or "there is just something cathartic about…bringing it up

every now and then and crying about it again" led me to conclude that informants felt a great

benefit from having the opportunity to talk freely and openly about their experiences, and

they will continue to benefit by being able to on other occasions. As noted in Chapter III, I

believe that my insider view was a crucial element in not only the ability to garner trust with

the participants during data collection, but also in the cathartic nature of the interviews.

Limitations

One objective of this study was to consider the perspectives of a broad range of

individuals, both in experience and activity type. The purpose was to provide a depth or

angle of analysis to compare experiences of "beginners" to those more "specialized" or

"serious" in terms of orientation to their pursuits.

One challenge or limitation for including the perspectives of individuals along a

spectrum of experience levels is that beginners often participate in environments that, to

some degree, naturally have less risk exposure. A beginning climber is more likely to participate at a local and easily accessible crag than venture into remote and more hazard exposed areas. This is not always the case but certainly a factor in this study. In addition, beginners often seek out and participate under the auspices of professional guides or organized programs that offer these type of experiences. While outfitters, guides, and institutional-oriented programs are not exempt from accidents, they often operate conservatively and with strict risk-management standards and practices for mitigating risk. These factors made access to true beginners difficult. I do contend that while most of the informants who participated in this study were not beginners, some of them were experimenting or still at a beginner level in the specific pursuit associated with their activity. Many were further along the serious leisure/specialized continuum than others, but very few were elite. The informants were fairly invested in one or several facets of outdoor and adventure recreation. Therefore, one limitation of this study was the exclusion of beginning or casual participants. The results may not be transferable or mirror the experiences of beginners or novices in similar recreation contexts.

Another limitation of this study was the predominance of land-based outdoor-adventure pursuits over water. There are other pursuits that could be included to add to the breadth of this research, including mountain biking, ice climbing, whitewater canoeing, canyoneering, and trekking. The results of this study may offer transferability to other pursuits beyond those typically associated with outdoor adventure, in particular, those that involve participation at high and intense levels where there are aspects of the environment that are out of the control of the participant. Activities that offer similar reliance on standards

and protocols and the exercise of judgment to ensure safety for self and/or others would likely yield similar results. Examples include road bike racing and surfing.

Another limitation of this study was the length of time between the accidents and the interview. This led to variations in the recall period for the informants and increased the likelihood of recall bias. However, as noted in the results chapter, I sensed that these individuals were highly self-aware. These events were significant, and, prior to the interview, many had made efforts to document their own experiences. In addition, they seemed very sensitive to providing accurate information. Several informants indicated when they were sharing information based on their perspective at the time of the interview versus at the time of the accident. Research on self-knowledge does warrant mention. Literature suggests that despite efforts toward self-awareness and introspection, certain thoughts and feelings may be inaccessible to individuals through unconscious repression or conscious suppression. As a researcher, I could only conclude that it seemed the informants had genuine and honest intentions. I contend that any risk in accuracy based on recall was no greater than the risk of errors that would have been likely in hypothetical experiences. The advantage of this approach was the connection these informants had to their own lived experience.

A final limitation of this study was the potential for my own biases to intervene throughout the various stages of this study. I made a commitment to neutrality. I also utilized prior studies, journalistic accounts, and conceptual literature on risk and accidents as interpretative guides. I also reflected heavily on the manner in which I phrased questions and interpreted responses. The use of the stress-coping model provided a helpful structure that gave uniformity to the questions. Most importantly, this study was not intended to make any value statement or judgment about the responses or participation in risk-related recreation in

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general. I entered into this study with very few expectations about what I might hear. I also had very few opinions that would affect my impression of the information the informants provided to me. However, it is important to acknowledge my immersion and involvements in outdoor-adventure participation that might have unintentionally shaped my interpretations and conclusions.

<p style="text-align:center">Managerial Recommendations</p>

I essentially identified two themes that captured the overall managerial recommendations. There are three types of managers of interest. The first is the individual who provides leadership and assumes ultimate responsibility for organized outdoor programs, employees, and clients. The second are the executive directors of clubs and associations that have a forum or direct link to recreationists. The third includes land managers and rescue personnel. The two themes are "educate" and connect."

Educate

While there is some debate over the usefulness of a critical incident debrief (Berman & Berman, 2005), the results from this study suggested to me that some form of debriefing is useful, if not essential. In addition, I believe information pertaining to the signs and symptoms of PTSD should be made available. Leaders, facilitators, and instructors of outdoor programs have an easier forum and platform from which to educate about the issues. In addition to conducting post-incident debriefs, they can make efforts to educate or alert participants to the signs and symptoms of PTSD and encourage individuals to seek help from professionals. I also believe efforts can be made to raise an awareness of the potential for

disturbing or upsetting emotions even when accidents are less traumatic or do not involve a fatality. I believe this becomes more of a factor as individuals become more specialized and intimate with outdoor-recreation settings. Even individuals who were not on-site at the time of the incident were able to imagine and visualize what the accidents might have been like, what actually was the cause of death, what happened to bodies, and the like. There are many high-density outdoor-recreation areas used by climbers, kayakers, and ice climbers. Those individuals who typically respond to rescues or accidents—like park service personnel, local sheriffs, and search-and-rescue teams—could distribute educational materials to accident victims and bystanders on the warning signs of post-traumatic stress with information on when and how to seek help.

In addition, I believe there is benefit from revisiting or having multiple opportunities to process the event well at various stages post-accident. Program leaders and managers who distribute educational literature could consider including information about the usefulness of revisiting or debriefing with someone they trust on several different occasions—perhaps as much as needed in the first several weeks, six months later, and then again in one year. To be effective, this may require different skill sets not embodied in one person. Individual may benefit from someone who has had experience in the outdoors and with similar accident experience. They may also benefit from someone who is skilled or a trained professional (psychologist or cognitive behavioral therapist) who can offer techniques geared toward eliminating or addressing lingering effects. Not everyone who experiences an accident is going to need or benefit from a trained professional. However, there is a significant amount of attention and emphasis on openness and acceptance of mental health issues in our society. Open acknowledgment of the possibility and normalcy of disturbing or distressing impacts

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from accidents could be one strategy to encourage those who need it to seek out help without shame or embarrassment.

Other subtle observations from this study deal specifically with the choice of recreation partners in non-guided or programmed experiences. There are numerous textbooks on leadership, in particular primarily in context of expeditions, that allude to the importance of carefully selecting partners that share common goals and expectations (Harvey, 1999). In addition, group dynamics are said to play a role in downplaying or overstating risk, depending on the individual in the group most comfortable or fearful (Blanchard, Strong & Ford, 2007). It is unlikely that this is a topic of importance for the average recreationist. One emerging theme resulted from the manner in which the data allowed for some comparison between the group dynamics after accidents. In this study, the individuals who participated with others of equal experience, with pre-existing history and who shared common goals, seemed to endure the hardships of the accident better. Their relationships seemed sustainable. In contrast, groups made of individuals with loose connections, with varying degrees of experience, and without common expectations seemed to suffer. Inclusion of a checklist for how to select recreation partners and the rationale for doing so, might be a useful consideration.

On a related note, the use of a group debrief is a standard skills set or practice among outdoor leaders. It is a method used to "check in" with participants, to support developing group dynamics, and to allow a forum for participants to address any personal or group-related issues. One purpose is to encourage healthy and open dialogue. I believe that efforts could be made to educate recreationists on the benefit of post-trip debriefs. In addition, an

outline or bullet list of recommended questions could be included to encourage groups to begin open communication in context of any group expedition–accident or not.

Connect

Administrators or executive directors of outdoor clubs and large-scale programs can identify trained counselors and other mental health professionals across the country that also have personal experience in various forms of outdoor-adventure-type pursuits. In addition, they can work to provide forums to connect individuals who have experienced an accident with others who have also experienced accidents in the similar settings and with similar outcomes. The Internet and other forms of social media would lend itself to online chats or virtual support groups that could be quite beneficial.

There was an obvious benefit to the individuals in this study who were able to identify a cause of the accident. This is, of course, not always possible, but there was also some benefit from just reading about the accidents and likely or presumed causes. The outdoor industry makes reputable efforts to gather and report information about accidents. However, sometimes these reports are significantly delayed. Efforts can be made to accumulate and make information available in a more expedient fashion. In addition, outdoor leaders and program administrations can incorporate opportunities for clients to return to the accident site with a qualified instructor or guide to analyze the associated factors. This was a very useful effort utilized by individuals in this study that brought clarity and healing.

Suggestions for Future Research

Given the limitations of this study, efforts need to be made to coordinate with well-established outdoor organizations for the purposes of identifying beginners in order to include the perspective and behavioral outcomes of more individuals along a continuum of experience. In addition, the type of adventure pursuits included in a related study could also be expanded for further comparison. Also, future research should be conducted to empirically test the relationship between attribution of cause and its relationship to stress, coping, and return to participation. Future research should be carried out that explore the factors that complicate or threaten relationships amongst individuals who experience these type of accidents, as well as those that seem to remain stable. Finally, further efforts should be made to measure the effectiveness of various forms of counseling or post-accident debriefing. A longitudinal study might be a useful approach to determine when the effect or usefulness of reoccurring processing sessions is no longer significant. Folkman and Moskowitz (2004) identify emotion-focused coping as an area of new and developing inquiry related to coping. In particular, they indicate that "future work on emotional approach coping should explore the point at which emotional approach coping may become rumination." Likewise, Wilson and Dunn (2004) note that writing about traumatic events holds more positive effects on health than the sometimes harmful effects of rumination.

A final suggestion for future research deals specifically with the idea of imagery and the formation of judgment. The purpose of this research was to explore how accidents were relevant, if at all, to the formation of judgment among participants in adventure recreation activities. Namely, in what specific ways did the informants incorporate information about the factors and assigned causes concerning their accidents to any decisions or behavioral

changes in regards to future participation? In addition, did accident exposure ever result in

"no participation"? In most outdoor-leadership texts, decision-making and judgment are

related ideas (Drury, Bonney, Berman, & Wagstaff, 1992; Leemon & Erickson, 2000;

Wagstaff & Cashel, 2001). Judgment is considered to be a process that draws on past

experiences to substitute for current uncertainties (Leemon & Erickson, 2000). Paul Petzoldt

believed judgment and decision-making were qualities integral to effective outdoor

leadership and instruction and defined it as "…the combination of information available at

the moment combined with past experiences to yield a decision" (Wagstaff & Cashel, 2001,

p.164). This research was not intended to investigate the process for developing good

judgment. I did, however, ask individuals in what manner their experiences influenced or

changed decisions or judgments about participation in the future. During the analysis of their

statements about risk post-accident, I sensed a pattern or process–almost a transition of

thought that the informants went through to accommodate the new information about risk

into pre-existing beliefs. It may or may not follow patterns associated with theories on

accommodation and assimilation. However, the manner in which the informants incorporated

factors they deemed relevant or that were perceived as contributory to the cause of the

accident into new rules or practices was notable. Often the changes that individuals said they

made to their participation were very specific and narrow. This was notable given the

complex factors actually at play in the accident scenarios they described.

I believe there could be valuable information about not only how judgment in outdoor

leaders is continually formed as new information is received but, more importantly, how

instructors and teachers can support or expedite that process for budding outdoor leaders.

Within wilderness-medicine training, photographs of injuries are utilized as well as simulated

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accident/injury scenarios. As this method might slowly acclimate wilderness-medicine students to these more graphic images, a similar method could be valuable to investigate how to use images and more personalized stories of accidents specific to particular activities to teach judgment and decision-making. This would require careful consideration to ensure that the positive benefits could be accomplished without causing harm to the participant. Currently, public reports on accidents focus on very objective forms of information and provide no information about any long-term impacts other than physical injuries. Lazarus and Folkman (1985) referenced a handful of studies that used some form of manipulation to influence the manner in which a film was appraised. The manipulations were intended to cause study participants to interpret the film in a somewhat detached manner or as damaging or harmful because of personal relevance. These studies indicated this approach was effective in inducing changes in subjective stress-level responses. I believe experimental design would be a useful research approach to further investigate the effectiveness of several strategies geared toward the formation and application of good judgment.

The qualitative approach proved to be an appropriate methodology for gaining a comprehensive understanding of the impacts of wilderness accidents. These accidents caused stress to many facets of life some of which were personal, internal and related to the way these individuals had fashioned their personal identity around participation in outdoor adventure pursuits. On the other hand, the novelty surrounding outdoor-adventure pursuits, knowledge and interest by others in the details of the accidents, and involvement in the unique social worlds contributed to a high degree of social stress. I was able to identify coping strategies useful for stress appraisal and those that empowered individuals to return to outdoor-adventure pursuits. In addition, there were certain conditions and environments that

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made coping difficult. Both negotiation and coping literatures posit certain relationships among constructs, and the use of qualitative design in this study allowed explanation and, possibly, expansion of the mechanisms behind those relationships (Creswell et al., 2006).

Folkman et al., (1986) suggested that the "…choice in measurement is between having items that can be used with a variety of people in a variety of settings versus those that are richer in descriptive power, but limited to specific people in specific contexts" (p. 1002). Blending the contextual accounts with prior testing of various aspects of the stress-coping model in broader outdoor-recreation settings provided a comprehensive study of the phenomenon of the wilderness accident.

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APPENDIX A

SAMPLE IN-DEPTH INTERVIEW QUESTION GUIDE

In order to identify themes related to influencing factors, stress appraisal, coping, and participation outcomes, I:

1. Recorded themes of respondents' descriptions of their involvement and exposure to wilderness adventure incidents. Sample questions included:

    o Describe in detail the incident you were involved in.

    o Describe the relationship with co-participants.

    o Describe the support you felt you received from friends, family, and significant others during your participation.

2. Identified the experience, meaning, and significance participants gave to their involvements in wilderness-adventure pursuits. Sample questions included:

    o Describe your past involvement and experience with wilderness-adventure pursuits.

    o What does your involvement mean to you?

3. To determine the prevalence of stress during or associated with a wilderness incident, I considered the following questions:

    o Did the incident at any time cause stress or anxiety?

        o If yes, can you describe any or all of the emotions you felt?

    o Did anything in your life feel vulnerable or at threat?

        o Probe with categories of physical, emotional, social, psychological, financial, identity, or time commitments.

- o What did you consider to have at stake for continuing participation or ceasing participation?

  - o Probe with what did you stand to lose?

- o Did the incident you experienced cause you at any time to re-think future participation?

  - o If yes, can you describe?

4. To determine what coping mechanisms were used to deal with stress, I considered the following questions:

- o What actions did you take to deal with the stress or vulnerabilities you experienced?

  - o Probe with did you read about or analyze the incident? Did you think about how you might have handled it differently or made different decisions?

- o What thoughts or internal steps did you go through to reconcile what happened?

  - o Probe with who did you talk to, the nature of those conversations, weighing of pros/cons, what others might think about me.

- o In what ways did you consider your future participation?

- o Did friends or family ask you about the incident?

  - o If yes, how did you respond?

  - o Did these questions feel burdensome or threatening?

5. To assess current participation post-incident, I considered the following questions:

o Describe your current participation in wilderness pursuits of the same and

varying types.

- o Did you make temporary changes in activity or location due to the

  incident?

- o Did you make long-term changes in activity or location due to the

  incident?

- o Did the meanings you have for the activity change in any way?

- o What is the status of the relationships with any or all co-participants

  that you feel are attributable to the incident?

- o What role has judgment played in your participation in risk-related

  recreation since the accident?

APPENDIX B

SAMPLE DEMOGRAPHICS AND CASE COMPARISON QUESTIONS

A. *Past Experience with Wilderness Incident*

1. Have you read about, heard about, witnessed, been in a party or group where an incident occurred, and/or been in an accident yourself in the last year? If you have been exposed to more than one, choose the incident that is most recent.

   a. (A year would begin from the date the survey was received)

      • If yes, continue.

      • If no, thank you for your willingness to participate in the study.

2. Based on what you read, heard, or were witness to:

Does the activity associated with the incident represent a particular activity you participate in? Yes or No (For example, it was a rock-climbing incident and I rock climb.)

If you were witness to the incident, choose all that apply:
   • I was near or on-site in a solo capacity.
   • I was part of an independent party or group.
   • I was party of a facilitated or guided experience.
   • I was with instructors or guides only.
   • I was in the company of other participants.

B. *Influencing Factors*
   1. *Situational (Proximity/Severity)*

Proximity to incident

- Read about (don't know individual(s))

- Heard about through word of mouth (don't know individuals(s))

- Heard about and know individuals involved

- Bystander do not know

- Part of the group/party where an incident occurred, but not not hurt or injured

- You were injured

2. *Severity of incident*

You or someone else experienced a:

- Minor injury, not life-threatening (simple fracture)

- Major injury with substantial recovery (broken bone with extensive rehab)

- Major injury/life-threatening but recoverable (critical condition/recovery not assured initially)

- Major injury, permanent disability (traumatic brain injury, loss of limb, spinal injury)

- Fatality

3. *Level of investment will be measured based on existing instruments used to measure specialization, serious leisure, or a combination.*

- History
- Identification (personal and social)
- Behavioral and personal commitment
- Enduring benefits
- Personal effort

APPENDIX C

BIOS ON INFORMANTS

Informant #1 was a 51-year-old male and a full-time professional mountain guide. He described an accident that involved his wife, a fellow guide from the mountain school where he worked, and two other individuals. He was 29 years of age when the accident occurred, meaning 23 years had elapsed between the accident and the interview. The climbers were participating in a winter mountaineering climb of a gully, and it was an overnight trip. Informant #1's wife and one of the other participants turned around during the climb up the gully while two other party members kept climbing. As they continued climbing, they were caught in an avalanche. A search/rescue was initiated, the climbers were missing, and avalanche debris was evident. The two missing climbers were considered deceased. The bodies were recovered the next spring. The cause of the accident was clear. Informant #1's relationship to the accident was the loss of a colleague/friends and his wife's involvement in the rescue and aftermath.

Informant #2 was a 61-year-old male. He was an avid climber, hiker, summer mountaineer, and downhill skier. He is a professor at a university. He was also very active in a mountain club and served in some leadership training/instructing roles. He described an accident that involved several close friends with whom he spent time recreationally and who were also involved in the club. He was 54 at the time of the incident, separating the time of the accident from his interview by seven years. He was at home in the U.S. when the accident occurred. He was tipped off by a friend who had heard something on the news; he then read about the accident and initiated a call to his friend's wife. The climbers were attempting a peak on an international trip. Three individuals were descending a snow slope during a storm and at the time of the fall were un-roped and unanchored. One person slid, was unable to self-arrest, and in doing so pulled another person as well. Both of the individuals were unable to self-arrest and died. One of these victims was a friend of Informant #2. The individual who did not fall was also a friend of Informant #2. He had another friend on the mountain but at a lower position at the time of the fall. The cause of the initial fall was unclear.

Informant #3 was a 46-year-old female. She considered herself a recreationist and also was a part-time outdoor instructor. She described an accident that involved her and her climbing partner. She was 45 years old at the time of the accident, marking one year from her interview and the accident. She and her partner were participating in winter mountaineering in a remote area within a national park. The climb took longer than expected, they were caught overnight, and the next day, due to changing weather conditions, they had to descend. They were caught in an avalanche. Due to complicating circumstances, they were unable to hike out, and her partner died. Informant #3 received significant but non-life-threatening injuries. The cause of the accident was clear.

Informant #4 was a 73-year-old male and a retired professor. He also founded and managed a consulting company. He was an avid recreationist and enjoyed and participated in hiking, rock climbing, mountaineering, and geocaching in the mountains, both internationally and in the United States. He was also an avid birdwatcher. He was also a long-time member of a mountain club and had served in leadership/instructor roles. He was 58 years of age when the accident occurred, meaning 15 years had elapsed from his interview and the accident. He and his wife and a close friend were traveling with others during an adventure trip and were involved in a motor vehicle crash. His friend was killed instantly. He was first on scene to see the physical trauma to his friend, care for her body, and respond to others in the group as well as to his and his wife's injuries. The cause of the accident was clear.

Informant #5 was a 43-year-old female with a master's degree and some doctoral work in biogeochemistry. She relocated and began full-time work in atmospheric research. She transitioned to full-time guiding and then into part-time guiding and part-time grant writing. She was also an avid recreationist and enjoyed mountaineering, alpine skiing, and rock climbing. She was 29 at the time of the accident she described, making the time between the interview and the accident 14 years. She was backcountry skiing with the friends. Toward the end of the day, she started down a slope, felt it collapse, got caught in the slide, and was eventually buried in the avalanche debris. Her friends were able to follow her down the ride, located her fairly quickly, and got her unburied. The cause of the incident was clear. She was only slightly injured in the slide.

Informant #6 was a 33-year-old male and a full-time professional in an outdoor leadership program. He was 29 years of age when the accident occurred, making the length of time from his accident and his interview five years. He participated in a variety of outdoor adventure pursuits, both professionally and recreationally. He and his wife were caught in a storm during a return hike in a remote outdoor environment, and he lost footing and fell approximately 200 feet. His wife observed the fall. The cause of the accident was clear.

Informant #7 was a 35-year-old male and a full-time computer specialist. In the last four to five years, he had become interested in backpacking and attended one outdoor leadership course and participated in several backpacking trip in neighboring states. He was 33 years of age at the time of the accident, marking three years between our interview and the accident. He described an accident that occurred to a group of individuals he had been with just a few days previously on the first part of a two-part trip. He was supposed to be on the second half of the trip but returned home early. These individuals were descending a steep slope after summiting a mountain. Someone slipped and caused the entire team to fall. They were stopped when a member slid into a crevasse. An individual who responded to the accident was killed when he slipped and had no equipment to assist in his fall.

Informant #8 was a 35-year-old male and worked full-time in a support position in a university setting. His position was unrelated to outdoor adventure. In the last six to seven

years, he had started rock climbing and climbing mountains with a friend. He was 32 at the time of the accident, marking three years between our interview and the accident. He described an accident in which he was involved. He and the other members of his team were descending a steep snow slope, and the group experienced a fall. He and several others involved suffered major injuries. The initial cause of the fall is unclear. An individual who responded to the accident was killed when he slipped and had no equipment to assist in his fall.

Informant #9 was a 52-year-old male and mechanical designer. He had been heavily involved in a variety of outdoor adventure pursuits for the last 20 years. He was 48 years old at the time of the accident he described, making the time separating our interview and the accident approximately five years. At the time of the accident, he was descending an alpine peak with his climbing partners. Two of his climbing partners were killed when then slid off the mountain and were unable to self-arrest. One of the individuals in his team was a close friend and climbing partner.

Informant #10 was a 54-year-old male and an executive director of a non-profit outdoor-related organization. He had been involved recreationally in a variety of outdoor adventure pursuits since high school, and after college, he became involved professionally in various facets of the outdoor-recreation industry. He was approximately 50 years old at the time of the accident he described, marking four years between our interview and the accident. He described his fall during a day of rock climbing. He suffered major injuries.

Informant #11 was a 37-year-old male and a full-time firefighter. He also had some experience as a raft guide and working ski patrol. He was an avid recreational kayaker. He was approximately 23 years old at the time of the accident he described, making the years separating our interview 14 years. He described an accident that he observed and that involved a good friend. While paddling with several friends, one of the individuals in his group was likely knocked unconscious when he fell out of his boat and drowned.

Informant #12 was a 43-year-old male and a full-time employee in a national park. He had various roles, including law enforcement and oversight of the search and rescue program. Recreationally, he enjoyed a variety of outdoor adventure-type pursuits. He described several accidents to me that resulted in fatalities to his colleagues. The one on which we focused involved a colleague who fell on a steep snow slope while engaged in a rescue. Informant #12 was three years removed from the accident.

Informant #13 was a 36-year-old male, assistant director of outdoor programs, and a climbing coach at a private rock gym. He was also a volunteer search-and-rescue member and was involved recreationally. His highest level of education was a master's degree. He identified three accidents that he felt had been most impactful and described how he had coped. The first incident he described was his role in a body recovery on a mountain as a

member of the search-and-rescue team. The biggest impact he described was regarding the interaction with the family members. The cause of the incident was clear. The individual had become lost on the mountain and died due to environmental exposure. The second accident he described was his observation of two men who fell to their deaths on a technical mountain climb. The cause was unknown. Informant #13's relationship to this accident is that is occurred during a personal trip and he was the first to witness it. He also was loosely associated with the recovery efforts. He did not know the deceased. The third accident he described involved a fall on steep snow. Four individuals fell on the descent of a summer mountaineering climb. His relationship to this accident was that he was the first to receive the call from one of the injured. In addition, he was close friends with two of the injured and spent considerable time in the hospital and in conversation with family members. The exact cause of the accident was unknown. The #13 was three years removed from the primary accident we discussed.

Informant #14 was a 40-year-old female and executive director of a non-profit outdoor association. She participated in a variety of outdoor pursuits but didn't consider herself an expert in any one activity. She was 15 years removed from the accident she described. Despite her background and some of her formal training, in many ways she was a dabbler and an irregular participant. She described an accident that happened while she was on an outdoor leadership course in a remote backcountry setting. During one of the roped activities in which she was participating, a large boulder was dislodged and fell on her, causing multiple muscular, skeletal, and soft tissue injuries.

Informant #15 was a 39-year old-male who was a director of a recreational university outdoor program. He enjoyed a variety of outdoor adventure pursuits, but at the time of our interview he had tapered off his participation both professionally and recreationally. He was approximately five years removed from the accident he described. He was traveling with several students during an academic course. During the descent from a mountain ridge, one of the participants slipped while hiking, and in the informant's attempts to stop the student, they both fell a considerable distance, suffering minor injuries. Despite the benign nature of his injuries, the informant considered the accident a close call.

Informant #16 was a 34-year-old female and was the executive director of a youth leadership development program that incorporated wilderness programming into the curriculum. She also had been participating in a variety of wilderness programs since college. She enjoyed backpacking and rock climbing. She was five years removed from the accident she described. She was on-site when a family member, her husband, took a long fall during a hike out from a remote climbing area. She was uninjured and involved in the incident response.

Informant #17 was a 39-year-old male and a full-time graduate student pursuing an advanced certification in a facet of rehabilitative medicine. He had early exposure to the

outdoor and had developed into an accomplished rock climber, although he had scaled back in the difficulty and exposure of his rock climbing. He was approximately eight years removed from the accident he described. He was climbing in a national park with a friend and witnessed a climber on a nearby route take a significant rock-climbing fall. He was not able to learn about the status of the individual or the outcome of the event.

Informant #18 was a 48-year-old male and a writer/communications professional. He enjoyed a variety of recreational outdoor adventure pursuits, such as rock climbing and front and backcountry skiing. At the time of our interview, he was 14 years removed from the accident he described. He was backcountry skiing with some friends when he witnessed one take a slide and become buried in an avalanche. He helped uncover his friend, and the individual only suffered minor injuries.

Informant #19 was a 37-year-old female and a full-time college professor in an outdoor program. She was also a volunteer firefighter and had also been an outdoor program coordinator and supervisor of a rafting company. She enjoyed a variety of outdoor pursuits, including canoeing, backcountry skiing, backpacking, and rock climbing. At the time of our interview, she was four years removed from the accident. She described an accident that occurred while she was at work but off site. A client who was participating in a river activity fell out of the boat and drowned. The informant had close supervisory relationships with many of the staff members more directly involved.

Informant #20 was a 34-year-old male and a full-time geochemist. He had about 10 years of involvement in rock climbing. He was four years removed from the accident at the time of our interview. He described an accident in which he was involved. His climbing friend took a long fall while rock climbing, and the informant was involved in the incident response. His partner suffered life-threatening injuries but made a full recovery.

Informant #21 was a 32-year-old male who was a full-time rock/mountain/alpine guide. He also participated in similar pursuits recreationally, and he was a registered and expedition nurse. He was approximately three years removed from the accident he described. He came upon an accident on a mountain in which a team of mountaineers had fallen and were injured. He was involved in the incident response and during the process of the rescue, witnessed a fall that resulted in a fatality.

Informant #22 was a 26-year-old male and a geochemist. He had become an avid rock climber in the last three years and had quickly progressed to a more advanced style of rock climbing. He was only a few weeks removed from the accident at the time of our interview. He was climbing with a group of friends on a climbing trip he had put together. He witnessed one of his climbing partners fall on the route below him. He was involved in the incident response. His climbing partner was evacuated to the hospital with significant injuries but was expected to make a full recovery.

TECHNICAL OUTDOOR TERMS

Belay — Managing the rope to catch a falling climber, hold a hanging climber, and lower a climber when it is time to come down, aided by the friction of a belay device (The Mountaineers, 2004).

Free-soloing — The act of climbing without a rope (Long & Lubben, 1997).

Geo-caching — Geo-caching uses a GPS receiver, map, and compass to navigate to the geographic coordinate of a hidden cache (Dyer, 2004).

Prussic Knot — A friction hitch used in self-rescue systems that creates a very high amount of friction among friction knots (The Mountaineers, 2004).

Talus — Larger fragments of piled-up and broken debris big enough to step on that results from the constant crumbling and dropping of rock from mountain peaks (The Mountaineers, 1997).

Top-Rope Climbing — A type of climbing where the climber has a belay from above for protection in case of falling even a short distance (Long, 1993).

Way Points — A position or landmark that is recorded or marked in a GPS used to plot or follow routes during backcountry travel or other recreation activities (The Mountaineers, 2004).

Wrap/Wrapped — A term used to indicate that a raft has been pinned flat around a rock or other obstruction by the current (Whitewater Rafting Glossary).