

Perceived Risks and Benefits of Climbing Mt. Whitney: A Qualitative Application of Risk Homeostasis Theory

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Introduction

Mt. Whitney, the highest peak in the contiguous United States (14,505 ft, 4421 m), is part of the Sierra Nevada range located in California. It is unique in that the summit of Mt. Whitney can be accessed by a number of routes. A trail leads to the summit for hikers, as do classic 3rd and 4th class mountaineering routes, and several alpine climbs ranging 5.6-5.11d in difficulty (McNamara, 2004). There is significant potential for a wide spectrum of climbers to reach the summit of Mt. Whitney by way of the various routes. Few locations offer such a diversity of opportunities for a large majority of the population to potentially climb to the summit. There is, however, significant risk inherent in climbing Mt. Whitney; each year numerous accidents and fatalities occur (INYO SAR, 2008). Nevertheless, each year thousands of individuals voluntarily make the climb that is fraught with risk. Some climbers may not fully understand the risks involved with climbing; however, most understand that risks are inherent. However, risk perception is very subjective and can vary from individual to individual. Therefore, this study utilized a qualitative approach and applied risk homeostasis theory to provide a better understanding of the subjective perceptions of risk and benefits that climbers associated with climbing Mt. Whitney.

Review of Literature

Risk homeostasis was developed for use with traffic accident analysis and posits that individuals participating in any activity will accept a certain level of subjectively estimated risk in exchange for benefits they hope to receive from participation in the activity (Wilde, 2001).

The risk can be to their health, safety, or anything perceived to be of value. While participating in an activity, a participant continuously evaluates the amount of risk exposure. After comparing this to the amount of acceptable risk, that participant will try to balance the difference by either pursuing activities with more or less risk based on what is subjectively acceptable. The level of acceptable risk in outdoor adventure activities is reduced as an individual gains experience. They in turn seek out opportunities that provide more challenges and greater potential for risk, and therefore regain equilibrium by pursuing more difficult routes as seen in previous research (Ewert & Hollenhorst, 1989).

Individuals differ not only in the risks they are willing to take, but also in their ability to perceive risk (Wilde, 2001). Target risk is the point when the difference between benefit and risk is maximized (see Figure 1). At zero risk there is also no benefit realized, and when perceived risk is high the expected loss is greater than the benefits received. Therefore, it is theorized that since there is no behavior or activity with absolute certainty, individuals will select risk where the difference between perceived risk and benefits are maximized, or target risk. An individual's ability to perceive risk is influenced by subjectivity and originated from three sources: past experience, current assessment of the immediate situation, and degree of confidence (Wilde). Past experience includes aspects of close calls, narrow escapes, conversations about others' accidents, and overall exposure to risks. The immediate situation entailed physical features, environment and others actions. Finally, personal confidence played an important part in risk perception. More confident individuals tend to have a lower risk perception and less confident a higher perception of risk.

Methods

Due to the unique and subjective nature of the study, qualitative methods were employed to assess the participants' perceptions of risk and benefits associated with climbing Mt. Whitney. Subjects were asked to voluntarily take part in the semi-structured, open ended interview based upon their experience level and route selection. Participants were asked seven open-ended questions about their perception of risks and benefits associated with climbing Mt. Whitney. Demographic information was also collected. From the recorded interview, statements that expressed a single idea were used as the basic unit of analysis. Then, following established qualitative techniques, statements that reflected similar ideas were grouped together and categorized (Miles &

Huberman, 1994) and coded into themes. Peer review was utilized to ensure coding trustworthiness throughout the analysis process and establish inter-rater reliability.

Findings

A total of 45 climbers took part in the interviews. Descriptive statistics were used to determine the demographics of the sample. The selected routes varied in difficulty and were divided into three groups. The sample consisted of 40% who climbed via the Main Mt. Whitney Trail, 27% who climbed the Mountaineers Route, and 33% who climbed one of the other routes. Females comprised 17% of the sample. The self-reported experience level was very diverse and varied from little to no experience to significant experience. The average age of participants was 38.6, with ages varying from 13 to 64 years old.

Qualitative analysis of the interview data provided six themes. Each theme represented both the benefits and risks associated with climbing Mt. Whitney. More particularly the themes characterized the risk and benefits of assessment, experience, personal aspects, physical aspects, risk, and social aspects.

Discussion

The concept of risk is very seldom associated with the potential to achieve something positive (Nichols, 2000; Renn, 1998). However based upon risk homeostasis theory, risk is an inherent aspect of life and must be present if benefits are to be expected. Certain components of risk, such as uncertainty, even become beneficial when target risk is reached. As in the case of one climber who stated, "I appreciate the sense of uncertainty that is inherent in climbing." As individuals tried to reach a target risk, they were able to take experience the accompanying benefits. The themes that emerged from the interviews further supported this concept of target risk and risk homeostasis. Interview data showed that participants tried to achieve a target risk. As was shown in the following statement, "I enjoy the mountains, risk is a part of that, and the reward is worth it." Another climber stated, "I like routes that challenge me, so that, easy routes are fun, but I like things that push me a little bit." The participant selected a more technical route to reach equilibrium between his perception of the risks and expected benefits based upon his ability to perceive risk. Perception of risk is influenced by subjectivity and originated from the three previously discussed

sources (Wilde). All three aspects were evident in the six themes that emerged during the interviews. The climbers with previous experience were able to draw upon past experience and thus influenced their perception of risk versus climbers that did not have the experience. Their experience also provided them with a greater sense of confidence. One participant simply stated, "I have plenty of experience and training. Done it before."

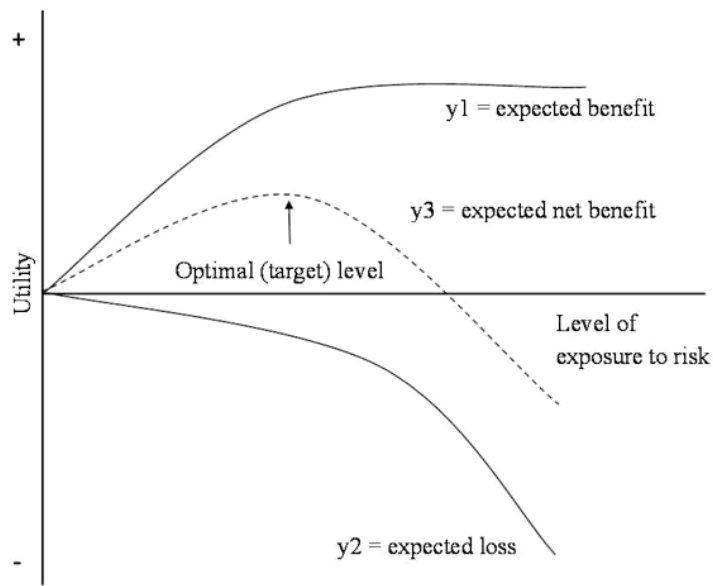
Mountaineering does involve inherent aspects of risk. However, those individuals that participated in mountain type experiences did not perceive risk taking as the objective, but merely a means to an end – to receive a benefit. The qualitative methods utilized in this study captured the subjective nature of perceptions of both the risks and benefits associated with climbing Mt. Whitney in six themes that ranged from social to physical and assessment to risk. Similar to previous research findings (Delle Fave Bassi, & Massimini, 2003; Ewert, 1994; Slinger & Rudestam, 1997), participants in this study were willing to accept risk as an inherent aspect of climbing to experience or maximize a beneficial outcome. Additionally, this study provided a greater understanding of perceptions of risk and benefit of climbing Mt. Whitney by utilizing the risk homeostasis framework.

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Figure 1. Theoretical representation of maximum net benefit and risk optimization.



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