

University of Alberta

Achieving a Better Understanding of Outdoor Recreation Conflict and its Management in
Canada's National Parks

By

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Dedication

To my wife Ashleigh for her sacrifices, patience, support, and constant understanding as I've worked to complete my graduate education. I would not have been able to complete my PhD without you. I love you.

Abstract

Outdoor recreation conflict has been defined as "...goal interference attributed to another's behavior" (Jacob & Schreyer, 1980, p. 369). Although previous leisure research has stressed the relevance of emotions (e.g., Hull, Stewart, & Yi, 1992), it has only been within the past decade that an increased interest in leisure-based emotions has occurred (e.g., Tumes, 2007; Vitterso et al., 2004). From this, development and evaluation of the validity and reliability of a multi-item, multidimensional emotions-based outdoor recreation conflict scale represented the primary purpose of this study. A second study purpose was introduced to investigate the outdoor recreation conflict knowledge transfer process within Canada's National Parks.

Scale validity and reliability were analyzed through the use of exploratory and confirmatory factor analysis and established fit indices (i.e., Chi-Square, CFI, GFI, SRMR, RMSEA) using LISREL statistical software. Empirical assessment of the emotions-based scale supported the construct validity of a three-dimensional, 13-item scale. The predictive validity of the scale related to outdoor recreation conflict was also substantiated. Dimension reliability for all three dimensions (emotion = .84; appraisal = .86; and core affect = .72) was also confirmed. Recommendations for future research are presented including the need to establish the scales' reliability and validity under different circumstances, in different settings, with different user groups.

Findings from the knowledge transfer process highlight that: (a) managers value existing and future relationships with academics, (b) managers require "tools" that permit quick and easy access to relevant information, and (c) research information needs to be presented in a way that is understandable, short and succinct. The proposed outdoor recreation conflict scale was identified as valuable and interesting; however, managers did not see the scale as being

appropriate for general use with the research intensive language proving to be a barrier for managers.

Overall, this research advances theoretical understanding of outdoor recreation conflict through the development of the first emotions-based conflict scale and reveals important findings for improving the delivery and acceptance of outdoor recreation and conflict related research. Practical and theoretical findings are discussed as they relate to the leisure field and other disciplines of inquiry.

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CHAPTER ONE

1.1 Introduction and Overview

Interest in recreation conflict was spurred in the 1960's because of increased participation rates and an incredible diversity of recreational activities. Consequently recreation conflict has become one of the most common, yet difficult, challenges with which managers must contend (Hammit & Schneider, 2000). Ecological impacts on trails and campsites have, however, received the most attention from management and policy developers (Manning, 1999). Despite the attention given to ecological management concerns, issues surrounding conflict represent social science problems that are particularly difficult to manage because of their varied attributes.

Jacob and Schreyer (1980) developed the first and perhaps most well-known conceptualization of recreation conflict defined as "...goal interference attributed to another's behavior" (p. 369). Accordingly, this type of conflict has most often been recognized as asymmetrical (i.e., only one group or party is affected) in nature. Jacob and Schreyer's model also identified activity style, resource specificity, mode of experience, and tolerance for lifestyle diversity as four factors that can serve to heighten a person or parties' sensitivity to conflict. Lindsay (1980) offered a spatial model of conflict, which saw "any physical, social or psychological obstruction arising with or between participants and their recreation goals" as having the potential for conflict (p. 216). Bury, Holland, and McEwen (1983) proposed another early conflict conceptualization where recreational activities are placed along a grid based on their degree of environmental dominance and technological dependence. As such, conflict was defined as the occurrence of incompatible activities (Bury, Holland, & McEwen, 1983). This model reflects the asymmetrical nature of conflict previously mentioned where one activity with a high technological dependence (e.g., motor boating) has a negative effect on another less

technologically dependent activity (e.g., canoeing). Finally, Schneider (2000) offered another conceptualization of conflict by suggesting that conflict can be categorized as either resulting from intrapersonal, interpersonal, or organizational differences.

In the earlier 1990's recreation conflict researchers also began to investigate visitor responses to conflict. Schneider and Hammitt (1995) stated that, "further progress toward understanding and managing conflict would seem enhanced if researchers redirected [their] attention...toward visitors' responses to conflict" (p. 225). Research, has identified the behavioural response of temporal/spatial displacement and the cognitive response of product shift and rationalization as the actions most typically engaged in by persons seeking to cope with recreation conflict (Schneider & Hammitt, 1995).

Over the past several decades, recreation conflict research has identified a number of key variables important to the understanding and management of recreation conflict. Some of these variables include individual motivations, social class, environmental attitudes (Jackson, 1989), social values (Carothers, Vaske, & Donnelly, 2001), individual and group norms (Watson, 1995), safety concerns, goals and goal importance (Manning, 1999), place attachment (Kyle, Mowen, & Tarrant, 2004), stress (Iwasaki & Schneider, 2003; Schuster, Hammitt, & Moore, 2006), perceptions of crowding, visitor based standards of quality (Stewart & Cole, 2001) as well as coping responses (Schneider & Hammitt, 1995; Manning & Valliere, 2001). More recently recreation conflict research has revealed a renewed focus on conflict related to constraints (Mowen, Payne, & Scott, 2005; Walker & Virden, 2005), crowding (Kuentzel & Heberlein, 2003), and a resurgence in the attention given to norms/visitor-based standards of quality (Manning, Morrissey, & Lawson, 2005), coping behaviour (Johnson & Dawson, 2004), place attachment (Smaldone, Harris, Sanyal, & Lind, 2005) and affective leisure behaviour (Vitterson,

Chipeniuk, Skar, & Vistad, 2004). Such findings could prove useful for managers of natural environments whose jobs are becoming increasingly more complex and sophisticated (Manning, 1999).

In fact, today outdoor recreation managers have at their disposal a varied arsenal of tools, techniques, and approaches for managing both ecological and social aspects of outdoor recreation participation. Quite often approaches or more accurately philosophies such as Sustainable Ecosystem Management (SEM) or Ecosystem-Based Management (EBM) are employed that enable managers to “serve human needs while maintaining diversity and productivity of natural ecosystems over time” (Moore & Driver, 2005, p. 180). In balancing human use and environmental sustainability managers often influence amount/distribution of use, method of travel, user group size, length of stay, visitor behaviours (e.g., fire building) as well as affect user expectations, user knowledge, time and seasons of use as well as support for management and policies (Moore & Driver, 2005).

Many outdoor recreation management approaches have a dominant environmental ethic; but there also exists a greater incorporation of social science knowledge into management, education, and practice. Nonetheless, management approaches are quite varied because “...there is too much diversity in outdoor recreation for standardized management approaches to be appropriate” (Manning, 1999, p. 282). Because of this, management practices or prescriptions are typically categorized as either indirect or direct. Manning (1999) holds that typically indirect management approaches are favoured because they are less controlling, permitting a greater amount of visitor freedom, but are also viewed as being somewhat less effective. Similarly, direct approaches have been criticized for being too controlling, but more effective for reaching management objectives (Manning, 1999). Indirect approaches emphasize influencing or

modifying visitor behaviour and are typically classified as four different types: physical setting modification, information and education, user involvement and fees/economic constraints.

Direct measures that typically emphasize the regulation of visitor behaviour have been grouped into seven general types (Moore & Driver, 2005), including: rules/regulations, restrictions on group size, length of stay, allowable activities, time of use, location of use (i.e., zoning), and level of use. These direct measures are purposefully broad because each can represent a wide assortment of management objectives, which specify different group sizes and allowable activities depending on the time of year.

Zoning, which can be used to separate certain recreation activities, even incompatible activities, is perhaps one of the most commonly utilized direct management approaches, (Manning, 1999). Zoning can also be applied in a spatial and temporal dimension and is at the heart of visitor management frameworks (VMF), although not all VMFs utilize zoning. At least five different VMF have been developed. The Recreation Opportunity Spectrum (ROS) was the first and is perhaps the best known VMF. Utilizing social not ecological carrying capacity, ROS is “based on the idea that people participate in recreational activities in specific settings to achieve desired experiences and benefits” (Payne & Nilsen, 2002, p. 158). The Visitor Activity Management Process (VAMP) developed by Parks Canada in the 1980s, revolves around visitor activity profiles and focuses on understanding human activity and use (Payne & Nilsen, 2002). The Visitor Impact Management Process (VIM) framework has a strong connection to ecological carrying capacity because of its primary concern for visitor impacts on the natural environment. The Limits of Acceptable Change is similar to ROS in that it concerns itself with identifying recreational opportunities in a variety of settings. Finally, the Visitor Experience and Resource

Protection (VERP) framework is unique because it attempts to integrate both social and ecological aspects of carrying capacity.

Although much of the previously discussed outdoor recreation management practices address environmental impacts associated with human recreation participation, they do not by design explicitly address recreation conflict concerns. Although many of the direct/indirect approaches (e.g., zoning, education) may be able to address conflict concerns, much of the outdoor recreation management practices are focused more generally at providing satisfying recreation opportunities while limiting environmental impacts. Conflict management, particularly early on, was approached with simple zoning because it was believed that conflict was a result of incompatible activities (Hammit & Schneider, 2000). When conflict problems were not solved, emphasis then shifted to understanding user behaviours, particularly their motivations, perceptions, and preferences (Hammit & Schneider, 2000). The emphasis expanded to include value differences with greater understanding being achieved with the inclusion of greater public involvement, which has led more recently to a focus on people's response to conflict and their ability to cope with conflicting or undesirable situations. Application of various recreation conflict management approaches has varied over the years, particularly within Canada's parks system.

Parks Canada, stipulates in the Canada national parks Act the management approach and philosophy to be applied throughout all national parks: a "...long-term ecological vision for the park, a set of ecological integrity objectives and indicators and provisions for resource protection and restoration, zoning, visitor use, public awareness and performance evaluation..." will be established for each national park (Parks Canada, 2000). Parks Canada's Guiding Principles and Operational Policies (2003) document specifies more precisely the type of management approach

being applied to Canadian national parks. A few guiding principles are of particular importance for this dissertation because of their increased focus on social science issues, including: (1) education and awareness, (2) human-environment relationship, (3) research and science, (4) appropriate visitor activities and (5) public involvement. It is clear however, that the objectives and management principles of Parks Canada reflect to some extent many of the broad management ideologies highlighted from the literature.

1.2 Problem Statement/Rationale

Unfortunately for the social sciences, much of the management focus is still dominated by a natural sciences emphasis or environmental ethic. This seems to be the sentiment of Lewis (2007), herself, a park manager in the U.S. Park Service. Lewis is not suggesting that social and natural science research should be considered separately, but that many of the value-based issues involving natural resources and visitor use could be addressed through social science research. The sad part according to Lewis is that “that input seems to be largely missing from the national parks...” (2007, p. 38). Unfortunately, and as a result, managers more often than not are required to cope or deal with complex social science issues, such as outdoor recreation conflict, without new, appropriate, and/or relevant information. In fact, Spiers and Plummer (2005) noted that Ontario Provincial park managers relied most on historical management approaches (e.g., zoning) and intuition when making management decisions (See also Harmon, 1994). Manning (1999) noted that, “Good information is needed for recreation management...” (p. 291). In fact, Wright (2003) noted that, “both researchers and managers cite barriers to incorporating the best available science into land management” (p. 1). Wright’s comments are particularly important because she has connections to research (Rocky Mountain Research Station & Aldo Leopold Wilderness Research Institute) and practice as a practitioner (United States Department of

Agriculture & Forest Service). One solution, according to Wright, for making ecosystem management more effective, is to narrow the gap between scientific knowledge and existing management practices. According to Wright, local applications of scientific knowledge by resource managers are more common and much more likely to occur successfully in comparison to broad scale applications. Despite the fact that management audiences are exposed to scientific information through publications and presentations, “awareness of new approaches and techniques does not necessarily transfer to active use of new management practices” (Wright, 2003, p. 2). One criticism has been that conference presentations and lengthy publications only promote awareness of new approaches and do not lend themselves to immediate application. Translating scientific discoveries into procedures is the most difficult task and as a result is what is often missing (Lewis, 2007). Resource managers often require a level of understanding of a new approach that can only be achieved through specialized training or handbooks in order for the implementation of new approaches to be effective and successful (Wright, 2003). The problem with most research findings can be traced to the different preferences researchers and managers have for the research including how the knowledge is disseminated. Manning (1999) recognized that most academic research has been basic (i.e., driven by theory or conducted for the purposes of developing a theory) as opposed to applied (i.e., conducted to address broader societal issues), which has impaired management acceptance and adoption of research findings. The basic nature of most research does little to help managers with complex variables like motivations and norms. Findings from research are often difficult for managers to directly apply because “...research problems are defined too narrowly and abstractly to have much application...” (Manning, 1999, p. 293). Wright (2003) highlights that new management approaches and innovations that are easier to try and to implement are more likely to see actual

application in a resource management context. In reference to many of the current, complex innovations, Wright says that they, "...can be designed to be less complex, more compatible, easier to implement, or easier to observe" (2003, p. 6). The responsibility however lies with the research community to make the effort to ensure that findings and innovations are easier for managers to adopt (Wright, 2003).

The problem of knowledge dissemination between researchers and managers with respect to social issues, such as outdoor recreation conflict, is compounded. The reason for this is because, "The fields of ecosystem science and management are comprised of a large number of ecologists and a few social scientists" (Wright, 2003, p. 2). It is unfortunate that science-based management is perhaps most often associated with a focus on the ecology of the land and therefore an emphasis is placed on limiting adverse environmental impacts (Lewis) from outdoor recreation participation. Wright acknowledges and I agree that both ecological and social science knowledge should be used to inform decisions. The evidence suggests, however, that social science research is not conducted as frequently as ecological science research within parks (Wright), which may account for less managerial exposure and even acknowledgement of its importance. This is surprising, given the complexity and multi-dimensionality of social science issues requiring innovative solutions and management approaches. The Social Sciences and Humanities Research Council (SSHRC) of Canada in 2002 stated that, "We simply do not have clear and widely accepted answers to very basic sustainability questions, including many that lie in the social sciences realm" (p. 2). SSHRC adds that, "significant advances have been made in our knowledge of the biophysical underpinnings of sustainability...However, to date, no similar strategic investment has been made in building the social knowledge and capacity that is just as essential to success" (2002, p. 2).

Such occurrences unfortunately represent barriers to both improving knowledge transfer between researchers and managers and potential improvements in manager's abilities to address serious social concerns; including outdoor recreation conflict. Thankfully, Parks Canada has recently recognized the increasing importance of managing social issues. Nilsen (2003), a Parks Canada researcher, has noted many benefits of social science research in Canada's National Parks, particularly for measuring visitor contacts as well as defining, measuring, and understanding client characteristics and helping to understand visitor satisfaction and behaviour changes. These benefits, however, ignore contributions social science research can make to maintaining ecological integrity. Simple recognition of the fact that most threats to ecological integrity are created by visitor activity within and outside of park boundaries should suffice in highlighting the contributions that social science research can make to ecological integrity (Rollins & Robinson, 2002). From these perspectives, social science research can inform human behaviour in social contexts, but also how and why certain behaviours are creating consequences for ecological integrity. For example, the values-based knowledge currently still missing from parks management (See Lewis, 2007), could potentially contribute to improving human activity/behaviour within parks, increasing ecological integrity.

Although recommendations abound (e.g., research/practitioner cooperation) about how to improve knowledge transfer between researchers and managers, and how to increase the incorporation of the social sciences into resource management; the truth is that we have much to learn. As researchers and natural resource managers, we simply do not know the current state of social science and more precisely conflict knowledge dissemination. We do not know if academically accepted knowledge related to conflict has been accepted and adopted by managers and also how such knowledge is retrieved and utilized. Conversely, if knowledge is not being

used, why not? These and other similar questions remain uninvestigated and consequently unanswered. Answers to these questions could help ensure that greater co-operation is achieved between researchers and managers and that future research on recreation conflict is approached with communication and compromise to ensure that findings benefit both researchers and managers. “Many of the tools and mechanisms that are needed already exist, they just need to be used to their fullest potential, in an integrated and collaborative environment” (Kachi, 2003, p. 4). In order for this to occur, an examination of the current state of knowledge dissemination must take place. Existing gaps as well as successful elements need to be identified. Understanding and being able to improve the diffusion of social scientific knowledge is one approach for enhancing the appropriateness of management decisions, improve park visitors’ experiences, and hopefully reduce occurrences of user conflicts.

1.3 Purpose and Research Objectives

The following investigation was comprised of two studies. The first, mixed methods study, conducted in a Canadian national park, sought to develop a deeper understanding of outdoor recreation conflict. As outlined earlier there exists an abundance of information that proposes to explain conflict. A model is presented, which offers a new and expanded conceptualization of outdoor recreation conflict based on the conflict literature, particularly that relating to stress and coping but also recognizes the role and importance of emotions in the conflict experience (See Russell & Barrett, 1999; Miller & McCool, 2003; Schuster, Hammitt & Moore, 2003; and Schneider & Stanis, in press). The intent was to verify and use this understanding to propose a multi-dimensional, multi-item conflict scale. Verification of my conceptual understanding was conducted through the use of interviews. An initial list of possible conflict related items was developed, with a final scale consolidated following expert review,

data collection in Jasper National Park, and exploratory and confirmatory factor analysis. The intention was for this scale to serve two primary purposes: First, from a practical perspective natural resource area managers would be able to use it to assess the frequency, magnitude, and dominant causes of recreation conflict in their particular area. And second, from a theoretical perspective, the scale would serve as the foundation for future research towards the continued understanding of outdoor recreation conflict. Pragmatically, the sheer number of park visitors warrants the use of quantitative methods to ensure that a sufficient and accurate depth of understanding is gained from visitors regarding conflict.

The second study provided an examination of the knowledge transfer process. Details regarding the rationale for this study is provided later. The study utilized a qualitative framework that incorporated one-on-one interviews with Parks Canada agency/management officials. Patton (2002) has noted that qualitative investigations are most suited to research when the topic has received little empirical attention. As such the qualitative approach is appropriate for providing an in-depth analysis. Focus was given to establishing what conflict knowledge is being utilized by park managers, what knowledge is not being utilized and why. Barriers to knowledge utilization will be identified, and a current state of conflict knowledge dissemination will be presented. Although leisure researchers have recognized the often-limited use and insularity of their research (Samdahl & Kelly, 1999; Jordan & Roland, 1999) no known research has attempted to investigate and understand the knowledge dissemination process in recreation and leisure research. This final study puts forward a number of recommendations for improving the diffusion of new and old management information in the future and permits the evaluation of the current use of conflict management practices/approaches in Canada's national park system.

The following research questions served to guide the above two studies.

Outdoor Recreation Conflict Conceptualization/Scale Development & Testing:

Guiding Question: What is outdoor recreation conflict?

RQ1: What are the factors or variables contributing to the occurrence(s) of recreation conflict?

RQ2: What factors or variables contribute the most to the occurrence(s) of recreation conflict?

RQ3: How do park visitors evaluate the presence or occurrence of recreation conflict?

RQ4: What role do negative emotions play in the experiencing of outdoor recreation conflict?

RQ5: How is this knowledge applicable to managers and researchers?

Outdoor Recreation Conflict Knowledge Management:

Guiding Question: Is recreation conflict knowledge being disseminated/transferred between its producers (i.e., academics) and its intended users (i.e., parks management officials)?

RQ1: Is current recreation conflict knowledge relevant to the current needs and goals of parks officials?

RQ2: Is disseminated knowledge actually being put into practice?

RQ3: What recreation conflict knowledge is not being disseminated?

RQ4: What barriers are present that are inhibiting the dissemination of conflict knowledge?

RQ5: What recommendations can be put forward to improve outdoor recreation conflict knowledge dissemination?

CHAPTER TWO

Literature Review

2.1 Introduction

The following chapter provides an overview of outdoor recreation, recreation conflict, parks history and outdoor recreation, and conflict management. More specifically, outdoor recreation is defined in comparison to both leisure and recreation. Outdoor recreation conflict is explored from an environmental psychology perspective as well as through the examination of various outdoor recreation conflict variables (e.g., crowding, motivations, visitor satisfaction, sense of place, and coping). Three early and arguably most recognized conceptualizations of outdoor recreation conflict are also explored. Various outdoor recreation management models and approaches are explored, including their relevance or appropriateness as outdoor recreation conflict management tools. A brief history of Canada's national parks is included along with a review of various management practices currently in use in Canada's national parks, followed by a look at management concerns and strategies for the future. The chapter finishes with the presentation of a proposed outdoor recreation conflict model that serves as the foundation for expanding the understanding of the causes of outdoor recreation conflict.

2.2 Leisure, Recreation, and Outdoor Recreation

Walt Whitman once wrote, "Now I see the secret of making the best person: it is to grow in the open air and eat and sleep with the earth". For many people participation in outdoor recreation provides them with just that; the chance to grow and learn new things about themselves all while surrounded in the open air by the vastness of nature. However, before defining and exploring the concept of outdoor recreation further, it is important to discuss a number of key concepts that are closely associated with it.

Leisure and recreation are popular terms that are often used synonymously. Use of these terms interchangeably, however, is incorrect (Godbey, 1999; Plummer, 2005). *Recreation* is often associated with the refreshing or restoring of an individual following work. Consequently, recreation has seen a much more specific and limited use as defining activity done in opposition to work (Godbey, 1999). Recreation is perhaps more precisely an activity engaged in during leisure and the resulting experience (Moore & Driver, 2005). An activity would therefore be considered recreation if it produced feelings of well-being, satisfaction, achievement, success, and even pleasure (Godbey, 1999). All of this stems from the idea, “that people engage in particular recreation activities to realize desired psychological and physiological experiences” (Moore & Driver, 2005, p. 9). *Leisure* on the other hand has been subject to a number of different conceptualizations. Its roots from the Latin word *licere*, which means “to be free,” and the Greek word *schole*, which means “serious activity without the pressure of necessity,” sparked much of our early understandings. Several different sayings have also emerged, including, “leisure time”, “leisure lifestyle”, “being at leisure” as well as “leisurely” as a means of describing leisure (Moore & Driver, 2005). The most recognized “shades of meaning” according to Godbey include as time, activity, and state of mind or existence.

As time, leisure is referred to as free time or a period in a person’s life where they may have a greater amount of freedom (Godbey, 1999). “From this perspective, leisure is defined as a series of activities that are pleasurable, purposeful, and undertaken voluntarily” during our free time (Plummer, 2005, p. 2). Equating leisure with free time is clear-cut and practical according to Moore and Driver (2005) because it “...can be easily quantified, making it possible to identify trends and to compare amounts of leisure among different groups” (p. 6). Defining leisure as free time is not without its shortcomings. First of all, we must learn to distinguish between

obligated and free time (Godbey, 1999). Godbey asks, “What is free time for the retired person, the student, the homemaker, the unemployed, the bedridden, the artist, the professor, or the homeless person?” (1999, p. 4). Different members of society have different things placing limits on their free time. Many times in life we are obligated to do many things that we may not consider work or leisure. As a means of highlighting the definitional problems associated with leisure as free time, Godbey notes five different kinds of free time as first discussed by Kaplan (1960). They included (1) permanent, voluntary leisure of the rich, (2) temporary, involuntary leisure of the unemployed, (3) regularly allocated, voluntary leisure of the employed, (4) permanent incapacity of the disabled and (5) the voluntary retirement of the aged.

Leisure as activity implies that leisure is participation in certain activities. Participation in leisure activities is also assumed to be freely chosen and not participated in for pay (Moore & Driver, 2005). Playing softball or soccer may be leisure for one person who participates freely and without pay. But what about professional soccer players who receive pay? Is their playing soccer no longer leisure? While participation in soccer will most often be regarded as a leisure activity; we must be careful when “Limiting our idea of leisure to lists of activities...[because] it ignores peoples’ motives and experiences” (Moore & Driver, 2005, p. 7).

Finally, leisure has been defined as a state of mind or existence. As existence, Godbey calls leisure “a mood of contemplation” referring to a state of being unhurried, tranquil, or without regard to time (1999, p. 5). Such a conceptualization has also been associated with spiritual or religious celebrations (Godbey, 1999; Moore & Driver, 2005). According to psychologist’s leisure as state of mind involves elements of perceived freedom, intrinsic motivation, and internal locus of control. As such leisure must be something that is freely chosen, intrinsically motivating or satisfying and also believed by participants that they are

controlling the occurrence of events rather than being controlled by the events (Godbey, 1999; Moore & Driver, 2005; Neulinger, 1994). Unfortunately, this conceptualization of leisure completely ignores the impact or influence of the external world (Moore & Driver, 2005). As such, Moore and Driver question whether it is appropriate to consider daydreams or even hallucinations leisure.

Having reviewed some of the more common conceptualizations of leisure and recreation, one may now begin to understand the equally ambiguous concept of outdoor recreation. One of the earliest definitions of outdoor recreation (Clawson & Knetsch, 1966) recognized *outdoor recreation* as simply recreation that is typically carried on outdoors. Some earlier definitions (e.g., Ford & Blanchard, 1993) however, also included the use of indoor facilities, which permitted traditional outdoor activities to be participated in indoors. More recently, definitions of outdoor recreation have become more standardized, in that they recognize many of the same fundamental characteristics. Leitner, Leitner, and Associates (1996) define outdoor recreation, “as the interaction between an activity and an outdoor natural environment that recreates an individual physically, psychologically, emotionally, and socially” (p. 338). Similarly, Ibrahim and Cordes (1993) defined outdoor recreation “as the organized free time activities that are participated in for their own sake and where there is an interaction between the participant and an element of nature” (p. 13). Surprisingly, Plummer (2005) notes that the term outdoor recreation has been used with remarkable consistency and in fact defining outdoor recreation is most often a case of semantics (Moore & Driver, 2005). Characteristics include that participation is voluntary, occurs during free time and has as its essence an interaction between people and the natural environment. Confusion has often resulted with what exactly is meant by “outdoor”?

Essentially, outdoor recreation is distinguishable from other recreation because of its use of a natural setting and the dependence upon the natural environment (Moore & Driver, 2005). Moore and Driver highlight that each of these dimensions should be viewed along a continuum. As such, mountain climbers living in the mountains for weeks as they attempt to climb Mount Everest may represent outdoor recreation as much as a woman working in her garden or a couple walking along a greenway trail. Debate however, still exists as to whether or not activities such as gardening, golf, or baseball at a local ball diamond are in fact outdoor recreation. However, Plummer (2005) also made note of five key objectives of outdoor recreation based on Jensen (1995). The objectives are as follows.

1. *Appreciation of nature*: outdoor recreation should build knowledge and enhance understanding of ecological processes as well as develop an awareness of sensitivity of natural environments to human impacts.
2. *Personal satisfaction and enjoyment*: outdoor recreation provides a vehicle by which people may positively experience nature, derive personal pleasure, and/or intuitive enrichment.
3. *Physiological fitness*: outdoor recreation frequently provides opportunities for active physical engagement.
4. *Positive behaviour patterns*: outdoor recreation should instill an attitude of respect, consideration, and sincerity toward fellow participants and resource managers.
5. *Stewardship*: outdoor recreation provides opportunity for the exercise of moral and ethical values towards the environment should be a chief aim of and spirit fostered by outdoor recreation.

Having provided a brief overview of outdoor recreation, it is also important to realize that other terminology exists. Not all of these are synonymous with the version of outdoor recreation just discussed, which represents a broad generalization, but rather represent slight variations. Terms that are also used include natural resource recreation, resource-based recreation, wildland recreation, forest recreation, nature tourism, ecotourism, adventure recreation, outdoor adventure and risk recreation (See Fennell, 1999; Hammitt & Cole, 1998; and Moore & Driver, 2005 for further explanations of the above terms).

It should be apparent from the above review that outdoor recreation shares with the terms leisure and recreation many of the same characteristics of freedom of choice and participation for inherent benefits. However, it is also outdoor recreation's innate complexity that makes it extremely troublesome to manage. Outdoor recreation management is most typically approached both from a human dimensions and natural resources dimensions perspective. The resulting interdisciplinary nature of outdoor recreation requires the involvement of professionals from the fields of psychology, sociology, geography, economics, political science, landscape architecture, biology, ecology, forestry, and hydrology to name but a few (Moore & Driver, 2005).

Understanding outdoor recreation behaviour however, requires a social psychological perspective, which is largely based on the expectancy theory of participation in an activity for a desired outcome (Moore & Driver, 2005). Such a behavioural approach concentrates on why individuals participate in particular outdoor recreation activities and focuses on the importance of the experience itself as well as the intrinsic benefits. It is this approach, which lead to the following discussion and examination of outdoor recreation conflict and its related variables.

2.2.1 Leisure, Recreation, Outdoor Recreation: Benefits and Value

The previous discussions alluded to many inherent benefits of leisure participation. The following highlights some of these benefits and overall value associated with leisure, or for that matter, tourism participation. Generally, leisure involvement has been established as a coping mechanism for stress and coincidentally a preventative mechanism against poor health (Trenberth, 2005). For instance, links to physiological benefits of increased longevity, reduction of mortality causing diseases, improved cardiovascular health, and treatment of obesity have been cited (Leahy, Shugrue, Daigle, & Daniel, 2009). Additionally, psychological well-being, including alleviation of psychological conditions such as anxiety and depression are also recognized (Leahy et al., 2009).

Research from the travel and tourism literature has found additional benefits of the leisure-tourism experience. These include rest and relaxation, which appears to be the number one reasons that Canadians travel, to nurture family and friendship ties, and finally to learn and discover (Crompton & Keown, 2010). Nimrod and Rotem (2010) studied the benefits of retirees' tourism and found five categories of benefits: excitement, social bonding, meeting role expectations, relaxation, and general enjoyment.

Most relevant to this study however, are specific benefits that have been linked to the outdoors, parks, and nature. For example, "participation in outdoor recreation provides a range of potential benefits. These include: health improvement from physical activity; spiritual well-being; an increase in self-esteem; mental restoration; and an appreciation for the natural environment" (Hoehner, Brownson, Allen, Gramann, Behrens, Floyd, Leahy, Liddle, Smaldone, Spain, Tardona, Ruthmann, Seiler, & Yount, 2010, p. 79). In fact, some research suggests that humans have a need to affiliate with nature and that human identity is rooted in the natural world

(Boniface, 2006). Boniface quotes earlier work saying, “that a meaningful change (particularly in terms of self-concept and self-perception) takes place within an individual when undertaking activities in natural, wilderness settings” (2006, p. 10). Boniface studies the meanings of adventurous activities for women, and, although she found as previous has, that benefits included getting away (or escaping from daily routine), friends (social bonding), she also found that “challenges in the outdoors test[ed] [the] emotional, physical, and intellectual and spiritual competence to personal limits seldom experienced in every day life” (2006, p. 17). The benefits move beyond actual nature, because as Valtchanov, Barton, and Ellard (2010) established, “even surrogate nature (in the form of photographs and videos) can have a significant effect on the physiological, emotional, and cognitive states of individuals” (p. 504).

The benefits and value of leisure, outdoor recreation, and nature are well established. Although people participate for a variety of reasons, actual behaviours while participating can vary, often influenced by encounters with other users/participants. Negative encounters, routinely described as conflicts have been the dominant focus.

2.3 Outdoor Recreation Conflict: Three Early Conceptualizations

Interest in recreation conflict was spurred in the 1960’s because of increased participation rates and an incredible diversity of recreational activities. Growth in recreation conflict has coincided directly with increased participation, the innovation of new activities and a greater accessibility to natural resource areas (Hammit & Cole, 1998; Spiers & Plummer, 2005; Vaske, Donnelly, Wittman & Laidlaw, 1995). Conflict research has witnessed an evolution from a dominant focus on competition between users for space and resources and a focus on incompatible activities to the contemporary examination of the underlying root causes, variables, and factors, which cause conflict (Confer, Thapa, & Mendelsohn, 2005). Even today, demand is

increasing for more theoretical approaches to understanding conflict and why it occurs (Manning, 1999).

Three of the most well-known conflict theories are those of Bury, Holland, and McEwen (1983), Jacob and Schreyer (1980), and Lindsay (1980). The first and perhaps most well-known and widely cited conceptualization of recreation conflict is that of Jacob and Schreyer (1980), whose theoretical perspective defined *conflict* as "...goal interference attributed to another's behavior" (p. 369). Accordingly, this type of conflict has most often been recognized as asymmetrical in nature and also referred to as interpersonal conflict (Carothers, Vaske, & Donnelly, 2001; Schneider, 2000; Vaske, Donnelly, Wittman, & Laidlaw, 1995). According to Carothers et al., (2001), "For interpersonal conflict to occur, the physical presence or behavior of an individual or a group of recreationists must interfere with the goals of another individual or group" (p. 47). Jacob and Schreyer's model identified *activity style*, *resource specificity*, *mode of experience*, and *tolerance for lifestyle diversity* as four factors that can serve to heighten a person or party's sensitivity to conflict. Activity style refers to the personal meanings individual's assign to a particular activity. Activity style is assessed based on intensity of participation, status (i.e., equipment, level of expertise, and the range of activity experiences). In a recent study, Confer, Thapa, and Mendelsohn (2005) examined conflict using activity style and residency status. The different activity styles were rafters, kayakers, and anglers. Anglers were found to be the most likely to perceive conflict. Resource specificity can also influence conflict and refers to the importance or significance of using a particular resource for a particular recreation activity. The various components of resource specificity include the quality of the resource itself, a person's status based on knowledge and the sense of possession that an individual feels over a specific recreation resource. One study by Moore, Scott, and Graefe

(1998) examined the effects of activity differences along one specific greenway trail.

Differences were found between runners, bikers, and in-line skaters, with the runners reporting the highest occurrence of conflict because of complaints surrounding individuals traveling too quickly and failing to give warning when passing.

The next factor influencing conflict according to Jacob and Schreyer's (1980) model is mode of experience. This factor concerns environmental perception and is reliant on how focused or unfocused a recreation participant is on the environment. For example, a bird watcher would be considered to be focused because of their attentiveness to the natural environment. Finally, conflict is influenced by tolerance for lifestyle diversity. In this sense, individuals with a low lifestyle tolerance would reject lifestyles that are different from their own. Lifestyle tolerance can also vary depending on the technology associated with a particular activity and the amount of resources it consumes. In further examining the conflict model of Jacob and Schreyer, Manning (1999) presented ten propositions, which reveal that in fact conflict is largely based on experience, beliefs and attitudes that are interpretive and unique to individuals. Table 1 presents 10 outdoor recreation conflict propositions extrapolated from Jacob and Schreyer's theoretical model.

Table 1

Outdoor Recreation Conflict Propositions

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1. The more intense the activity style, the greater the likelihood of a social interaction with less intense participants will result in conflict.
 2. When the private activity style confronts the status-conscious activity style, conflict results because the private activity style's disregard for status symbols negates the relevance of the other participant's status hierarchy.
 3. Status-based interactivity conflict occurs when a participant desiring high status must interact with another viewed as lower status.
 4. Conflict occurs between participants who do not share the same status hierarchies.
 5. The more specific the expectations of what constitutes a quality experience, the greater the potential for conflict.
 6. When a person who views the place's qualities as unequaled confronts behaviors indicating a lower evaluation, conflict results.
 7. Conflict results when users with a possessive attitude toward the resource confront users perceived as disrupting traditional uses and behavioral norms.
 8. Conflict occurs for high status users when they must interact with the lower status users who symbolize devaluation of a heretofore exclusive, intimate relationship with the place.
 9. When a person in the focused mode interacts with a person in the unfocused mode, conflicts results.
 10. If group differences are evaluated as undesirable or a potential threat to recreation goals, conflict results when members of these two groups confront one another.

Note: Source is Manning (1999) from Jacob & Schreyer (1980)

Lindsay (1980) on the other hand advanced a spatial model of recreation conflict. According to this model conflict is “any physical, social or psychological obstruction arising with or between participants and their recreation goals” (p. 216). Although this model may appear at first glance to be strikingly similar to that of Jacob and Schreyer; it in fact is different because it places a much stronger emphasis on the issues of crowding and social carrying capacity. This model recognizes competition for physical, social and psychological space as the primary cause of conflict. Knowles law of social interaction represents another way of understanding this model. Knowles law states that “the effect of another on an individual will increase with the square root of their number and decrease with the square root of their distance” (Gifford, 2002, p. 176). Lindsay’s model proposes that a limited amount of space is available for recreation activities. As the number of recreationist’s increases, so does the likelihood for conflict, but as the number decreases and space or distance increases among individuals, the likelihood for conflict decreases.

Finally, Bury, Holland, and McEwen (1983) presented the notion of conflict as incompatible activities. Depicted on a grid of environmental dominance and technological dependence, the authors suggested that the greater the distance between two activities on the grid, the greater the chance that conflict will result. This model reflects the asymmetrical nature of conflict mentioned previously, where one activity with a high technological dependence (e.g., motor boating) has a negative effect on another less technologically dependent activity (e.g., canoeing). While this theoretical model may seem intuitive, Schneider and Hammitt (1995) are quick to point out the lack of direct empirical investigations. This being said, a number of researchers have investigated the occurrences of conflict between activities involving different degrees of technological dependence. Such studies, include conflict between hikers and

mountain bikers (Carother, Vaske, & Donnelly, 2001; Ramthun, 1995), snowmobiling and skiing (Knopp & Tyger, 1973), backcountry skiers and helicopter skiers (Gibbons & Ruddell, 1995), skiers and snowboarders (Thapa & Graefe, 2004) as well as among runners, walkers, in-line skaters and bikers (Moore, Scott, & Graefe, 1998).

It is also worth mentioning the impact that leisure constraints research has had on furthering our understanding of not only leisure participation, but also recreation conflict (See Crawford & Godbey, 1987; Crawford, Jackson, & Godbey, 1991; Crompton & Kim, 2004; Schneider, 2000a; Walker & Virden, 2005). An initial conceptualization of leisure constraints (Crawford and Godbey) suggested three barriers to participation existed: structural, intrapersonal, and interpersonal. Structural constraints were those believed to intervene between the leisure preference and actual participation stages. As such, a person may possess a desire to go camping for a weekend, but invariably is hindered by finances, work, or even season of the year. Intrapersonal constraints interact with people's leisure preferences and are regarded as psychological attributes or states. Stress, depression, self-perceived skill level, and prior socialization into a specific activity are examples. Interpersonal constraints on the other hand "are the result of interpersonal interaction or the relationship between individuals' characteristics" (Crawford & Godbey, 1987, p. 123). An example of this constraint would be lack of a climbing partner due to him or her having to work. Interpersonal constraints can impact upon preferences for certain activities as well as subsequent participation.

A few years later Crawford, Jackson, and Godbey (1991) expanded their constraints model, suggesting the existence of a hierarchy among the three different types of barriers. Their model proposed that intrapersonal constraints occurred first and were the most powerful. Assuming intrapersonal constraints were overcome, an individual would then experience

interpersonal barriers to participation in their desired activity. Finally, individuals would encounter structural constraints, with the result of overcoming these barriers ending in actual participation. If structural barriers cannot however be overcome, then participation will not occur (Crawford, Jackson, & Godbey, 1991).

Walker and Virden (2005) have more recently expanded the *hierarchical constraints model*. Their model is firstly based on the "...contention that motivations, along with intrapersonal and interpersonal constraints, affect leisure preferences" (Walker & Virden, p. 201). Their model added to the previous one by also including a microlevel construct (i.e., personality traits, human needs, attitudes/beliefs, etc), that recognized that individual factors can also affect leisure preferences. Furthermore, a macrolevel construct was added accounting for socioeconomic, cultural, and gender forces, which may influence leisure preferences. These two constructs are further suggested to be reciprocal and affect setting affordances (i.e., that are social and environmental conditions that facilitate leisure participation). Walker and Virden's model is also governed by the contention that both interpersonal and structural barriers intercede between preferences and participation. As a result, the "decision to participate" variable has been added as a distinct step between preferences and participation. The overcoming of constraints now occurs twice; once to overcome intrapersonal and interpersonal constraints, but also once structural constraints are encountered. Walker and Virden conclude by suggesting that individuals will invoke into a post-participation evaluation, which inevitably impacts future participation.

Leisure constraints research improves our understanding of outdoor recreation conflict because it incorporates the role of personal experience. "Predispositions to certain leisure attitudes, motivations, preferences, and ultimately participation" are influenced by a

recreationist's experience use history (Walker & Virden, 2005, p. 205). Therefore, our post-participation evaluations invariably cultivate our attitudes and preferences, and impact upon our motivations. If a particularly negative experience has resulted in a negative attitude towards mountain bikers for example, any future interaction with mountain bikers could result in conflict.

Recognizing the direct and appropriate relationship between leisure constraints and outdoor recreation conflict, Schneider (2000a) described three phenomena: intrapersonal, interpersonal, and organizational conflict. Interpersonal conflict occurs when real or perceived opposition is experienced between individuals or groups because of interference regarding values, goals, and/or resources. Interpersonal conflicts have become the best understood because of the work of Jacob and Schreyer (1980) and Lindsay (1980) whose models suggest the need for social interaction. Intrapersonal conflict relates more to the internal opposition that is experienced by persons of difference (i.e., gender, ethnicity, and/or class). Backcountry areas that restrict larger groups may in fact create conflict/opposition for particular subculture groups that wish to travel in large family groups (Spiers & Plummer, 2005). The final, organizational conflict can have four potential sources. These include, conflict among park agencies/organizations, between the organization and the general community, among employees, and/or between the park organization and its clients (Schneider, 2000a; Spiers & Plummer, 2005). Elaborating on the connection between constraints and conflict, Walker and Virden (2005) put forth four new categories of outdoor recreation constraints: *natural environment structural constraints*, *social environment structural constraints*, *territorial structural constraints*, and *institutional structural constraints*. Social environment structural constraints are particularly relevant to conflict because it is explicitly recognized that "crowding, activity style, and perceived conflict may also constrain outdoor recreation participation and enjoyment"

(Walker & Virden, p. 210). Later crowding is examined as a specialized form of outdoor recreation conflict that can also constrain leisure. Territorial structural constraints are also relevant because they highlight the impact that resource competition can have in producing conflict. “Wilderness and other natural areas are often contested spaces and constraints research must take into account how this can act as a structural barrier to leisure participation” (Walker & Virden, p. 211).

Although the previous theoretical models have helped advance our understanding of outdoor recreation conflict, it is also important to recognize the existence of an abundance of other variables and influences that also impact upon occurrences of human behaviour generally, and recreation conflict specifically. Environmental psychology has provided another disciplinary focus through which conflict and perhaps more specifically human behaviour can be understood. The following section touches upon a few environmental psychology theories and how they may help to explain conflict occurrences.

2.4 Outdoor Recreation Conflict and Environmental Psychology

Environmental psychology has offered several theories that, although not directly associated with conflict, do help understand people’s behaviours while in the outdoors. Environmental psychology is particularly appropriate because it “...accepts the idea that behavior is subject to many influences” (Gifford, 2002, p. 12). This is particularly relevant because of the abundance of recreation conflict variables/influences that have been identified. In fact, Cassidy (1997) defines *environmental psychology* as “the study of the transactions between individuals and their socio-physical environments” (p. 4).

The behaviour-setting theory offers one explanation for behaviour. Its central tenet is the existence of prescribed patterns of behaviour or programs that are unique to different places

(Gifford, 2002). There is remarkable uniformity among individuals at a baseball game, an opera, the local swimming pool and even within outdoor recreation environments. In this sense, different settings are more easily understood by examining their rules, customs, physical features, and typical activities (Gifford, 2002). Cassidy (1997) discusses Skinner's (1953) discriminative stimulus concept as ways that people learn "...to associate certain cues in the environment with particular types of behaviour..."(p. 35). Consequently, individuals who do not behave according to a setting norm may invoke feelings of conflict in other visitors to that setting.

The *geo-behavioral environment theory* originally proposed by Isidor Chein in 1954 suggested that you could understand a person's behaviour by understanding that person's physical environment (Gifford, 2002). Understanding required knowledge of five major elements. These included instigators or stimuli, which trigger certain behaviours; goal object and noxients, which represent moments where needs are met or produce pain; supports (e.g., lights, roads) and constraints (e.g., fences, trackless wilderness) that either facilitate or hinder behaviours; directors, which are features (i.e., signs) found within the environment that direct behaviours and where people should go; and global environment, which simply represent general environmental characteristics (i.e., deserts have sand; Gifford, 2002).

Interactionism proposes that people and the environment are separate, but routinely engage in a series of interactions (Cassidy, 1997; Gifford, 2002). As such, behaviours are either explained by the person or the environment (Gifford, 2002). *Transactionalism*, proposes the opposite, suggesting that people and environments are one entity and that you cannot adequately discuss one without the other (Gifford, 2002). The *theory of planned behaviour* (Ajzen, 1991) offers yet another explanation for people's behaviours. The theory suggests that people

rationally construct behavioural intentions for actual environmental behaviours. Three components of personal attitudes and evaluations are considered: (1) attitude toward the behaviour (2) their subjective norm (i.e., what the individual evaluates as being acceptable), and (3) their “perceived behavioural control” (Bonnes & Bonaiuto, 2002). Conflict then, according to these theories could possibly be explained by understanding the person, the environment, and their interactions as well as people’s behavioural intentions prior to entering an environment.

Environmental attitudes and values can also help explain behaviours (Gifford, 2002). Attitudes can be explained by understanding their cognitive, affective and conative components. Cognitive accounts for what people know about an environment. Affective refers to a person’s emotional attachment and conative to a person’s behavioural intentions towards the environment (Gifford, 2002). Norms can also help understand behaviour, unfortunately the complexity of human behaviour make its complete explanation, particularly within one model, extremely difficult (Cassidy, 1997). Thankfully, understanding the cognitive, affective, and conative dimensions of attitudes can lead to a greater understanding of many recreation conflict variables including, norms, standards of quality, visitor satisfaction, visitor motivations, as well as place attachment.

2.5 Outdoor Recreation Conflict Variables

Although outdoor recreation conflict has been defined in a number of specific ways (see Bury, Holland, & McEwen, 1983; Jacob & Schreyer, 1980; Lindsay, 1980), conflict is nonetheless considered to be a multi-dimensional construct. In order to effectively understand what conflict is and what is responsible for its occurrence, one must discuss its many associated variables. Unfortunately it is difficult to discuss one variable without at least mentioning several others and the impacts they incur.

Despite the fact that conflict has most often been defined as goal interference, “there has never been agreement on how recreation conflict should be measured” (Watson, 1995, p. 237). Vitterso, Chipeniuk, Skar, and Vistad (2004) have pointed out the importance of *affective responses* in recreation conflict. According to the authors, “...subjective feelings should be an explicit part of a comprehensive theory of recreational conflict” (2004, p. 237). A focus on individuals’ affective states has become increasingly more prominent among leisure scientists since the 1980’s (Vitterso et al., 2004). The term affect simply represents individual evaluations, emotions, moods, and preferences (Vitterso et al., 2004). The strong connection to norms and values helps juxtapose the traditional interpersonal (i.e; goal interference) conflict with social values (i.e; social acceptability) conflict (Carothers, Vaske, & Donnelly, 2001). Interpersonal conflict occurs when the behaviour or presence of another interferes with the goal of another individual. In contrast social values conflict can occur when individuals or groups do not share the same values or norms regardless of actual contact (Carothers et al., 2001; Vaske, Donnelly, Wittman, & Laidlaw, 1995). Vaske et al. (1995) investigated social values conflict between hunters and non-hunters. Their results found that social values conflict occurred with hunting associated events because of value differences between the two groups.

According to Rasmussen and Brunson (1996), “Value conflicts tend to be the most intense and natural resource managers have had the least success dealing with them...” (p. 448). This lack of success can be attributed to the fact that values represent beliefs concerning proper modes of conduct and are quite often deeply rooted (Rasmussen & Brunson). Values therefore represent an evaluation regarding social acceptability. When defined in this way, conflict becomes a normative issue concerning acceptable behaviours (Carothers et al., 2001). As a means of attempting to evaluate social acceptability and therefore have a greater understanding

of the values, which underlie conflict theory, Heywood (2000) presented the Structural Approach. The structural norm technique utilizes acceptability scales to allow people to evaluate behaviours and establish personal norms. If agreement begins to occur between personal norms, social norms can begin to take shape. Much of this pioneering normative research is based on Jackson (1965), who proposed a model to describe norms using an impact acceptability curve (Shelby, Vaske, & Donnelly, 1996). Displaying impacts along the horizontal axis (increasing impact from left to right) and evaluations on the vertical (positive evaluations on the top), the curve essentially uses the averages of individual evaluations to describe social norms. Norms, according to Heywood describe degrees of should and should not or acceptable/unacceptable. Norms are standards of what people think behaviours ought to be as opposed to standards for the behaviour itself (Shelby et al.). Norms should not be confused with attitudes, which represent degrees of good and bad (Heywood, 2000). Social norms must also be distinguished from social conventions. According to Heywood (1996), “Social conventions are concerned with open behaviors, where several types of action or inaction may be appropriate depending on who is present at a particular time and place”, whereas social norms as previously described are only concerned with one form of action/inaction that is correct (p. 356).

Heywood (2000) further elaborated about norms by recognizing two types. The first is a *descriptive norm*, which defines what is typical or normal. The second, *injunctive norm* represents the idea of norms that has been discussed previously – a definition of how a person ought to behave. The injunctive norm is the more powerful one because it can be used for education and guiding people towards desired behaviours (Heywood). Norms have also been recognized as prescriptive obligations and proscriptive obligations (Heywood). Prescriptive

obligations refer to what should never be done, while proscriptive refer to what should always be done (Heywood).

How well a norm influences behaviours depends on norm intensity and norm crystallization (Heywood, 1996). Intensity is the level of appropriateness or inappropriateness that defines behaviour and whether the behaviour can constitute a sanction (reward or punishment). Crystallization is the degree of agreement or consensus about the particular norm and therefore its likelihood of a sanction (Heywood, 1996). Research has also likened the intensity of a norm with an emotional component, associated with the costs or benefits of sanctions and crystallization to a cognitive component, associated with expectations about behavioural standards and obligations (Heywood & Murdock, 2002; See also Jackson, 1965).

Despite the depth of research and the strong association with recreation conflict and human behaviour in general, norms have been criticized for lacking an expansive interpretation suitable for outdoor recreation (Manning, Lawson, Newman, Laven, & Valliere, 2002).

Precisely, Manning et al. (2002) noted:

(1) outdoor recreation may involve emerging norms for which strong sanctions and a sense of obligation have yet to fully evolve, (2) recreation-related norms may apply to social and resource conditions as well as behavior because such conditions are a function of individual behavior, (3) recreation-related norms may regulate collective rather than individual behavior and (4) research has documented some degree of consensus regarding a number of recreation-related norms (p. 340).

Expanding the interpretation of norms to more fully understand outdoor recreation and conflict requires then comprehension of standards of quality (Manning & Freimund, 2004). Conflict knowledge can benefit because, “If visitors have normative standards concerning relevant aspects of recreation experiences, then such norms can be studied and used as a basis for formulating standards of quality” (Manning, Morrissey, & Lawson, 2005, p. 206). Standards of quality are important because they take normative theory further by defining minimum

acceptable conditions for both social and resource components (Manning & Freimund, 2004). Maintaining minimum acceptable conditions requires a management-by-objectives approach. Such an approach requires the formulation of management objectives, also known as desired future conditions, followed by the development of indicators and standards of quality. The monitoring of indicators allows management to take the requisite action to ensure that standards are upheld (Laven, Manning, & Krymkowski, 2005; Manning et al., 2005). Indicators, therefore, “are measurable, manageable variables that reflect the quality of the natural/cultural resources and visitor experiences” (Laven et al., 2005, p. 158).

The visitor experience is subjective and perceived uniquely by each person, making the establishment of a measurable, manageable variable of the visitor experience incredibly challenging. “The notion that there is some level of visitor use beyond which the quality of the outdoor recreation experience diminishes...is at the heart of the social carrying capacity concept” (Manning, Valliere, Minter, Wang, & Jacobi, 2000, p. 58). Social carrying capacity is concerned with the relationship among park users, whether the impacts of users result in changes to the recreation experience and finally whether the changes are acceptable (Payne & Nilsen, 2002). The notion of acceptability has been at the root of much of the previous discussion surrounding values and most notably norms. But acceptability and norms also have links to the notion of tolerance. In social-psychological spheres tolerance has been studied under the same context as group norms (Ivy, Stewart, & Lue, 1992). Falling along a continuum of tolerable behaviour, people are expected to fall within a range of permissible behaviours (Ivy et al., 1992). Therefore tolerance has been viewed “...as a willingness to accept deviations from preferred or ‘idea’ situations” and has also been described “...as the degree to which we accept things of which we disapprove” (Ivy et al., 1992, p. 350). Jacob and Schreyer (1980) who proposed

conflict as goal interference, made reference to intolerance, conceiving it as an "...unwillingness to share resources with members of other lifestyles groups" (p. 376). Following the model put forth by Jacob and Schreyer conflict can occur when a lower level of tolerance is experienced by an individual who encounters a person participating in an activity different from their own. Ivy et al., (1992) explored the role of tolerance in conflict and found the presence of conflict at all levels of tolerance with varying degrees of intensity.

2.5.1 Unacceptable Behaviours

Discussions of tolerance and acceptability in the conflict literature have seen a more recent focus on unacceptable behaviours. Classifying conflict as such, establishes conflict as "normative beliefs about unacceptable behaviors" (Vaske, Dyar, & Timmons, 2004, p. 216). For instance, Vaske et al., measured conflict using a number of observable unacceptable behaviours, one of which was "behaved in a discourteous manner". Mann and Absher (2008) found that horse riders and hikers reported mountain bikers' disturbing behaviour in open-ended conflict questioning. Conversely, garbage and vandalism possessed the highest conflict potential among all users groups. Neither garbage or vandlism were labelled as unacceptable behaviours, but one might clearly recognize their potential as unacceptable behaviours, particularly in a natural setting such as park or protected area. Reis and Higham (2009) found that littering, unsafe behaviours, visitor behaviour/activity causing track damage, causing wildlife disturbance, and showing disregard to resources were the most telling reasons for conflict between hunters and hikers. Taking a slightly different approach, Schuster, Hammitt, and Moore (2006) discussed conflict as the experiencing of hassles. The most identified sources of hassles "were litter, noise from other people [see also Manning, Newman, Fristrup, Stack, & Pilcher, 2010], damage to the resource, and too many people at campsites" (p. 97).

These results are promising for recreation and parks management because they may offer a more objective measurement of conflict occurrences. Most compelling is that, most visitors to parks and participants of outdoor recreation, appear quite tolerant of other users. For instance, Gilden (2004) in her study of conflict around the recreation mecca of Mt. St. Helens said that, “visitors interviewed for this project expressed an unexpectedly high level of tolerance for other groups” (p. 11). Similarly, Clark, Hendee, and Campbell (2009) found that campers expressed much less concern over problems such as nuisance behaviour, noise, littering, vandalism, and trouble in general, in relation to managers. Reis and Higham came to a similar conclusion. They found surprisingly little actual perceived conflict, and instead, discovered that hunters and hikers shared a mutual awareness of conflict concerns (i.e., unacceptable behaviours, littering, etc). These conflict concerns are what create the potential for conflict to actually occur between different user groups. The findings from Tumes (2007) support this conclusion. Tumes found that walkers were very accepting of mountain bikers, however conflict was often experienced when mountain bikers were perceived to be engaging in inappropriate behaviours. Her conclusion: “the main source of conflict situations between mountain bike riders and bushwalkers in this study is not an obstruction of goals and the determinants that Jacob and Schreyer (1980) propose, but rather the inappropriate behaviour of users” (Tumes, 2007, p. 53).

2.6 Outdoor Recreation Crowding

Tolerance has also been used to study contact or encounter levels as well as crowding. Satisfaction curves, encounter/preference curves, tolerance/acceptability curves, and privacy encounter curves have been used most often for measuring and understanding crowding (Hammit & Rutlin, 1995; Stewart & Cole, 2001). Crowding has been well researched in the outdoor recreation literature and most often associated with recreation conflict (Chang, 1997;

Heywood & Aas, 1999; Kuentzel & Heberlein, 2003; Manning, Valliere, Wang, & Jacobi, 1999; Tarrant, 1999). Crowding is particularly relevant to the understanding of conflict because crowding has traditionally been investigated from a normative theory perspective (Manning et al., 1999). Outdoor recreation issues such as carrying capacity (See Payne & Nilsen, 2002; Shelby & Heberlein, 1986; Mitchell, 1989), norms, and standards of quality have been routinely studied in connection to crowding issues (Manning et al., 1999). According to Kuentzel and Heberlein (2003), crowding is both an individual judgment and socially shared norm concerning appropriate density. From an environmental psychology perspective, Gifford (2002) has suggested that density and crowding are quite different. “Density is an objective measure of individuals per unit of area”, while crowding represents “a personally defined, subjective feeling that too many others are around” (Gifford, 2002, p. 175). Density is also limited because it assumes that individuals are evenly distributed within a particular area (Gifford, 2002). In reality, people are not evenly distributed and because of this crowding have often been more closely linked to proximity (Gifford, 2002). As a means of explaining the relationship between crowding and proximity Eric Knowles proposed a law of social interaction. His law stated, “That the effects of others on an individual will increase with the square root of their number and decrease with the square root of their distance”, suggesting that proximity will have a greater impact on feelings of crowding (Gifford, 2002, p. 176). Similarly, social influences can impact upon feelings of crowding; so much so that carry-over crowding can occur. Carry-over crowding occurs when individuals who felt crowded at one social setting, experience increased feelings of crowding at another social setting (Gifford, 2002).

Defining *crowding* as an individual judgment and socially shared norm is appropriate but ill-informed and inadequate. From the normative perspective, crowding has been found to be

influenced by the characteristics of visitors, characteristics of those encountered, as well as situational variables (Manning et al., 2000). Characteristics of visitors that influence crowding include activities engaged in, individual motivations, attitudes, experience levels, and existing use level expectations. Factors such as size of group, behaviour, and similarity between groups represent characteristics of those encountered that impact upon crowding. Situational variables such as type of recreation area, its location, quality and design will also influence crowding (Manning et al., 2000). In fact, normative research has found that different encounter norms exist for different activities, for different settings, as well as within the same setting (Shelby et al., 1996).

Crowding also implies a negative emotion or affect, which typically results in a range of behavioural responses. Gifford (2002) has also highlighted the existence of four situation modes, three affective modes, and five behaviour modes within the crowding experience. In situation modes behaviours are constrained, and the presence of others causes discomfort often resulting in unmet expectations. In affective modes negative reactions occur towards others and the situation. Positive reactions can even occur, when negative situations have been overcome. The behaviour modes are responses to crowding and are more complex. They include assertiveness (i.e., protesting), activity completion (i.e., complete the activity and move on), psychological withdrawal (i.e., mentally tuning out the crowding), immediate physical withdrawal and adaptation (i.e., making the most of the situation and circumstances) (Gifford, 2002).

2.6.1 Outdoor Recreation Crowding: European Context

“Compared with recreation research in North America, where crowding is an important topic, only 16 European crowding studies have been identified since the 1980s” (Arnberger &

Mann, 2008, p. 559). The reasons are clear; the simple fact is that crowding is not considered an issue deserving of recreation research and management, particularly in most Southern, Eastern, and some Central European countries (Arnberger & Mann). Two relatively recent European studies found concern for both conflict and crowding. Kalisch and Klaphake (2007) found that approximately 20% of visitors to a German national park reported some level of crowding. It is somewhat surprising that this percentage is not higher. Examination of German national parks, Job (2008) said that, “compared with the international situation the terrestrial reserves are small” and also described Germany as a “densely populated industrial country” (p. 135). Research would seem to dictate that smaller park size and a more densely populated country should result in greater amounts of crowding, if not conflict. Supporting this contention is Heer, Rusterholz, and Baur (2003) who found that 57% of hikers to Muttentz, a seminatural suburban recreation forest in northwestern Switzerland, reported having a negative experience. Crowding and even conflict appear to be occurring in, at least, some European parks. According to Arnberger and Mann (2008), “there is a need for standardized crowding research in order to gain insights into cultural differences and commonalities for integrating forest recreation management into a sustainable framework for forest management” (p. 559). Part of that insight is going to be gained by examining and understanding visitor motivations and satisfaction levels.

2.7 Motivations and Visitor Satisfaction

In light of the aforementioned overview, it should not be surprising that crowding would have a direct connection to conflict. This is particularly true because of the impact crowding can have on both individual motivations and the quality of the recreation experience (or visitor satisfaction). Stewart and Cole (2001) noted “...that as the number of people [in an area] increases, the ability of a recreation to satisfy some (but not all) recreational motivations will

decline...” (p. 107). They also noted that, “...user density influences perceived crowding which, in turn, influences experience quality” (Stewart & Cole, 2001, p. 108). Experience quality has more recently been approached from a management-by-objectives approach (Manning, 2003). Motivations, as understood to be, “...a set of internal or external factors that arouse or direct human behavior” has also proven useful to measuring experience quality and visitor satisfaction (Ewert, 1993, p. 336; See also Manning, 1999, and Mannell & Kleiber, 1997). Measured before, during, and after participation, motivations can prove amenable to quality related issues (Ewert, 1993). If motivations for participation have been met the higher the likelihood of visitor satisfaction and a positive recreational experience.

For the past few decades’ quality in outdoor recreation has been measured using visitor satisfaction (Fletcher & Fletcher, 2003). When expectations and motivations are met, satisfaction occurs, consequently dissatisfaction may result when goals are unmet, crowding is perceived, personal and social norms are violated or expectations are unmet regarding resource or experience quality (Fletcher & Fletcher, 2003), all of which are invariably linked to occurrences and feelings of conflict. The difficulty with using visitor satisfaction is that (1) satisfaction is a subjective concept and (2) research has shown it to be “a multidimensional concept that is influenced by a potentially broad array of elements” (Manning, 2003, p. 109). Satisfaction is influenced by resource settings, social settings and managerial settings and further mediated by the subjective evaluations of each individual according to their norms, attitudes and preferences (Fletcher & Fletcher, 2003). It is this complexity that makes satisfaction a problematic measure of experience quality. It has also been reported that a significantly large percentage of outdoor recreation participants report high levels of satisfaction (Manning). Manning explains this phenomenon by suggesting that many of the natural and cultural features

found in parks and natural areas can in fact “overpower” many of the other factors influencing visitor satisfaction. The fact that the vast majority of recreation pursuits are self-directed also contributes to the potential reporting of higher levels of satisfaction (Manning). Conflict understanding has been largely based on the understanding of visitor satisfaction, which at least partially explains why difficulty remains in adequately measuring and conceptualizing conflict.

A number of other ways to understand experience quality and visitor satisfaction have also been proposed. These methods include the benefits-based approach, experience-based approach, and meanings-based approach (Borrie & Birzell, 2001; Moore & Driver, 2005). The benefits-based approach focuses on the psychological outcomes of a recreation experience for measuring visitor satisfaction as opposed to the traditional reliance on satisfaction attributes such as crowding and norms (Borrie & Birzell). The experience-based approach emphasizes the experience, getting individuals to describe their recreation experience, “...instead of asking them to evaluate components of the recreation setting” (Borrie & Birzell, p. 33). The meanings-based approach goes even further to focusing on the role the wilderness experience has played in the context of the person’s life. The meanings-based approach has also received increased attention in the investigation of *sense of place*, and *place attachment* (Borrie & Birzell).

2.8 Place Attachment

The current investigation of conflict variables has revealed the importance and role that norms, values, social acceptability, tolerance, crowding, encounter preferences, standards of quality, motivations, and visitor satisfaction play in theoretically and conceptually understanding recreation conflict. Place attachment (see Borrie & Birzell, 2001; Cassidy, 1997; Kaltenborn & Williams, 2002) is equally important and serves to help better understand conflict because it too is highly associated with many of the aforementioned variables. In fact, Warzecha and Lime

(2001) noted that, "...it is the values that people attach to places that are often at the heart of natural resource management conflicts" (p. 60). Individuals with strong place attachment can serve as barometers for environmental and social change and also as reliable indicators of place quality (Warzecha & Lime). The uniqueness of place attachment feelings (including preferences, and attitudes) to individuals can also serve as a means for segmenting visitor, resulting in the separation of individuals participating in different activities or those with different norms concerning acceptable behaviours (Warzecha & Lime). Place attachment and motivations have also been found to be associated. Kyle, Mowen, and Tarrant (2004) examined the link between place attachment and travel motivation. Using the dimensions of motivation (e.g., learn, autonomy, activity, social, nature, health) to frame questions for participants, the authors found that as scores on motivations (i.e., learn, autonomy, etc) went up, so too did the level of place attachment for their visited destination.

Place attachment has been defined as, "a person's emotional, cognitive, symbolic, or spiritual response to a particular physical surrounding or environment" (Smaldone, Harris, Sanyal, & Lind, 2005, p. 91). Some of the earliest and most influential discussions of place were written by Tuan (1974) and Relph (1976). Tuan for example identified what he called 'topophilia' or the affective bond between people and place. A review of the literature reveals an assortment of terminology used to explain people's connections to place. Aside from place attachment, there exists sense of place, place identity, place dependence, and place bonding (Tuan, 1974; Relph, 1976; Low & Altman, 1992). While place attachment and sense of place are sometimes used interchangeably, differences do exist. Place attachment has been thought to consist of three components: affect, cognition, and behavioral intention (Kyle et al., 2004; Jorgensen & Stedman, 2006; Kyle & Chick, 2007). Jorgensen and Stedman (2006) relate place

identity to the cognitive dimension, place attachment to the affective, and place dependence to the conative or behavioural dimension insisting that this represents what they call “sense of place”. Place affect represents the emotional bond or attachment that can be created between a person and a place (Kyle et al.). The cognitive component is considered to be reflective of place identity. In this sense, a particular place may hold a certain value by contributing to that individual’s personal identity (Kyle et al., Warzecha & Lime, 2001). The behavioural component on the other hand has been found to be operationalized by place dependence. Strong place dependence is governed by how well it is able to satisfy the needs or goals of an individual and also by how well a particular place compares to alternative sites that may be equally as effective at satisfying needs and goals (Warzecha & Lime).

Writings by Stokowski (2002) may however, suggest that place attachment, place dependence, and place identity are merely representative of what it means to have a sense of place. For instance, sense of place refers “to an individual’s ability to develop feelings of attachment to particular settings based on a combination of use, attentiveness, and emotion” (Stokowski, p. 368). Furthermore, sense of place is also considered to be an outcome of an individual’s activity dependence at particular recreation sites (Stokowski). Therefore, both attachment and dependence become prerequisites to the development of a sense of place. Regardless, connection to place is recognized as complex and intertwined with numerous constructs (Low & Altman, 1992; Smaldone et al., 2005). On the other hand, Relph defined sense of place more generally saying that it “is the ability to recognize different places and different identities of a place” (1976, p. 63). He was however, worried that society was headed towards “placelessness” or a “placeless geography” where we would lose sight of the symbolic significance of places and therefore weaken the identity of the places themselves.

The strength of a person's connection is often influenced by each place's physical characteristics, individuals' social relationships and experiences as well as personal beliefs, values and preferences (Smaldone et al., 2005). There is a strong consensus that place attachments are social constructions or created during our socialization processes (Tuan, 1974; Relph, 1976; Low & Altman, 1992). It is our knowledge, beliefs, and stories of a place, as well as our social relationships and behaviour in that place, that work to create our attachments or bonds. Oftentimes, a strong place dependence can result in increased conflict among the various resource users (Smaldone et al., 2005). The pre-eminent model of conflict proposed by Jacob and Schreyer (1980) linked place attachment to their suggested causes of conflict, including mode of experience, activity style, and resource specificity (Smaldone et al., 2005). As an example, Smaldone et al. wrote that, "Recreationists who rate high on resource specificity for a particular experience are theorized to be less willing to give up their place of recreation" (p. 93). The strength of a particular place attachment should also be considered with the nature of the attachment (Kaltenborn & Williams, 2002). As such, one must be able to understand what it is that someone is attached to before evaluating the strength of their attachment (Kaltenborn & Williams).

2.8.1 Socially Constructed Sense of Place

"Leisure researchers have been slow to acknowledge the influence of the socio-cultural context on the meanings recreationists' associate with place" (Kyle & Chick, 2007, p. 212). The argument now seems quite substantiated that "places" are social constructions whose meanings are created and always changing with prevailing discourse (e.g., Kyle & Chick, 2007; Stokowski, 2002; Williams & Stewart, 1998). Humans confer meaning to nature and the natural

environment and, in doing so; create symbolic environments (Greider & Garkovich, 1994). The images of these landscapes are sourced from culture:

Cultural groups transform the natural environment into landscapes through the use of different symbols that bestow different meanings...the symbols and meanings that comprise landscapes reflect what people in cultural groups define to be proper and improper relationships among themselves and between themselves and the physical environment (Greider & Garkovich, 1994, p. 2).

For example, Stewart, Parry, and Glover (2008) presented an intriguing examination of leisure discourse using several different leisure contexts to frame their argument. According to the authors, “discourse is the public language of a culture or community of people with implied narratives about morality, fairness, and appropriate behavior. It is connected to the power structure and ideology in a society” (p. 362). Their example appropriately linked to outdoor recreation and a contributing influence to how “place” is conferred upon the natural environment, concerns the discourse that privileges land as pristine. For Stewart et al., “when the narrative of one landscape is socially and politically privileged through decades of build-up, other meanings and other landscapes decrease in status” (p. 372). To once again quote Stewart et al., “if land is to be pristine, it needs to be remote, difficult to access, and visitors should feel as though they are one of the first and few to travel on it” (2008, p. 373). This preoccupation with visitor encounters and crowding influences the development of sense of place among visitors to wilderness areas. If visitation to a particular area is counter to the dominant narrative, visitors may leave with a less than favourable sense of place. Almost unknowingly, their lasting impression of a place was previously influenced by the prevailing discourse that nature must be pristine land.

At this point, the connections between place attachment and conflict should be apparent. Also apparent should be the interconnectedness of the various conflict variables (i.e., norms,

values, crowding, standards of quality, motivations, visitor satisfaction, place attachment). Participants must contend with these variables on a daily basis and therefore understanding human coping ability also becomes a critical element when discussing recreation conflict. Although coping has been alluded to within the previous discussions of conflict variables, the following section will provide an overview of recreation coping behaviours and their connection to recreation conflict.

2.9 Outdoor Recreation, Conflict, and Coping

As described in the Introduction to this dissertation, over a decade ago Schneider and Hammitt (1995) commented that, “Recreation conflict research offers little focus on the theoretical and conceptual underpinning of how visitors respond to outdoor recreation conflict” (p. 225). A decade later, *recreation coping responses*, particularly as they relate to conflict and crowding have been well investigated (Hall & Shelby, 2000; Schneider & Hammitt, 1995; Johnson & Dawson, 2004; Manning, 1999; Manning & Valliere, 2001; Moore & Lee, 1999; Schneider, 2000b). This is partially because of the realization that high intensity conflict situations produce extreme coping responses, sanctions, and retaliations (Schneider, 2000b; Hammitt & Schneider, 1995). Research has also demonstrated the possibility of a connection between coping behaviours and participants’ high levels of overall satisfaction (Johnson & Dawson, 2004). Findings suggest that recreation participants utilize both behavioural and cognitive methods of coping (Johnson & Dawson, 2004; Manning & Valliere, 2001). Coping itself has been defined in a number of ways. One such way, says that coping is “any behavior, whether deliberate or not, that reduces stress and enables a person to deal with a situation without excessive stress” (Manning & Valliere, p. 411).

The three primary coping mechanisms in the outdoor recreation literature have been recognized as *displacement*, *rationalization*, and *product shift* (Manning & Valliere, 2001). Considered to be a behavioural coping mechanism, displacement falls under two classifications; spatial and temporal. Displacement has often been linked to rising use levels, because of its use by recreation participants to move to a less used area when feelings of crowding arise. A move from one recreation area to a completely different area is regarded as intersite displacement, while intrasite displacement assumes a move to a new location within the same recreation area. Temporal displacement also occurs when participants choose to move their recreation involvement to another time period. For example, people may choose to visit a favourite provincial park during the week, in an effort to avoid the likelihood of crowds on the weekend (Manning & Valliere).

Hall and Shelby (2000) have also recognized the use of activity displacement. In contrast to temporal and spatial displacement, activity displacement occurs when people choose to adopt a different activity, but remain at their current site. The use of displacement strategies by recreation participants has been considered problematic for recreation area managers. Essentially, those individuals utilizing displacement have either stopped visiting a particular area or are only visiting during quieter times. This poses a problem when trying to measure visitor satisfaction because they may no longer be dissatisfied with their experience and consequently register a higher level of satisfaction (Manning & Valliere). One must also be careful when defining displacement. An individual who finds another recreational area that is preferred over the previous would not be considered displaced, because displacement only occurs when there is a move away from an unacceptable situation (Hall & Shelby).

Rationalization and product shift are both considered cognitive coping mechanisms. In rationalization, a person will rationalize their experience (or what is going on around them that is producing stress) in a way that works to reduce the stress (Manning & Valliere, 2001). Product shift results in the altering of the definition of a particular recreation experience. In this sense, canoeists on a river, may re-define the river as being less remote than previously thought if they were to encounter a larger than expected number of other individuals (Manning & Valliere).

Several studies have noted the use of multiple coping mechanisms (Johnson & Dawson, 2004; Manning & Valliere, 2001; Schneider, 2000b). In their study of outdoor recreation coping of community residents near Acadia National Park, Manning and Valliere found that individuals were making use of both behavioural and cognitive mechanisms, often utilizing all three mechanisms (i.e., displacement, rationalization, product shift). Schneider (2000b) noted similarly from a review of the literature that coping responses were neither exclusive (i.e., always used the same one) nor singular (i.e., only using one). Johnson and Dawson (2004) found that 53% of their respondents participating in recreational activities in the Adirondack wilderness used one or more types of coping behaviours. They also reported a greater frequency in the use of temporal displacement ($n=35$) versus spatial displacement ($n=28$). Of those using temporal displacement, 19 admitted that they were choosing to hike on weekdays in order to avoid conditions of crowding. A total of 33 individuals admitted use of product shift, but only eight utilized rationalization. One of their primary conclusions reflected the fact that, “visitors are using coping mechanisms in greater complexity and interaction than was expected, suggesting that they are adapting to maintain a sufficient level of satisfaction across multiple attributes of wilderness to motivate them to return” (Johnson & Dawson p. 290).

Similar to the findings of Johnson and Dawson (2004), Hall and Shelby (2000) reported the greatest use of temporal displacement (42%) by visitors to a reservoir in Oregon. They also found that a larger percentage (i.e., approximately 40-68%) of visitors indicated not being displaced, but the remainder that were, were impacted heavily by both crowding (i.e., difficulty finding a campsite) and conflict issues (i.e., inconsiderate behaviours).

The connection between conflict and coping behaviours has also been proposed as a process-oriented approach (Owens, 1985; Schneider, 2000b; Schneider & Hammitt, 1995). Viewing conflict as a conflict-response model suggests that, “conflict is a process of social interaction which is operationalized with the general motivational goal of eliminating environmental instability” (Owens, p. 251). In this sense, coping is inherent in a conflict experience. Lazarus and Folkman (1984) proposed a process-oriented coping response model, which focuses on subjective interpretations of an encounter, using five components: (1) person and situation factors, (2) appraisals, (3) stress, (4) coping response and (5) short and long-term adaptational outcomes (Schneider, 2000b). Anything appraised to be stressful results in a coping response and future adaptations.

It is also worth pointing out that coping has been recognized as having both emotion-focused and problem-focused elements while also including coping resources and coping strategies (Iwasaki & Schneider, 2003). Emotion-focused usually are indirect (i.e., regulating emotions) and problem-focused direct actions, such as planning. Coping resources on the other hand relate to things such as personality dispositions while coping strategies refer to cognitive responses in dealing with stressors (Iwasaki & Schneider, 2003).

Utilizing a 22-item coping response scale that included emotion-focused and problem-focused elements as well as coping responses from the conflict literature, Schneider (2000b)

investigated responses to conflict in an urban-proximate setting. Distinguishing participants according to whether they were wilderness or developed area visitors, her primary assumption was that wilderness visitors were interested in releasing stress and avoiding distractions. In both cases, Schneider found that over 50% of respondents used a minimum of eight coping responses, with most resorting to an emotion-focused response as a means of separating or distancing themselves from the stressor. Schneider postulated that respondents may be resorting to distancing because the conflict is viewed as unchangeable and out of their control. Approximately 33% of respondents further indicated displacement, saying that they were going to avoid the area in future visits. Having “substitutes” is one way to help ensure visitors return to an area (Schneider).

Substitutability is important to individuals utilizing coping responses because it represents, “the extent to which one recreation activity might be a satisfactory substitute for another” (Manning, 1999, p. 207). In fact substitutability, like coping, has spatial, temporal, and activity dimensions. Spatially a person may choose to substitute the same activity in a different area, or temporally, substitute the same activity at the same setting for a different time (Manning, 1999).

Overall, given the impact that conflicting and crowded situations can have on a person’s recreation experience; it’s not difficult to understand why coping responses are so important to increased conflict understanding. People may resort to using a particular coping response in order to help maintain a certain level of satisfaction, to help attain a previously identified goal or motivation or because a norm or standard has been violated. Coping however is a complex process that involves trade-offs between a person’s goals and most often takes into consideration any possible constraints (Hall & Shelby, 2000). If considering spatial displacement, people must

consider the availability of alternate sites, the knowledge they may have of that site and also their ability and willingness to travel (Hall & Shelby).

Natural resource managers must also give consideration to the coping responses being utilized and why. The more managers are able to understand, the more likely they will be able to provide and maintain high quality visitor experiences. Similarly, abstract terminology, particularly as they relate to human feelings such as emotions, affect, and mood are often viewed as important theoretically, but serve limited purposes for practitioners in practical situations. Nonetheless, it is believed that improvements to the understanding and management of outdoor recreation conflict can only occur once a solid foundational understanding of human affective feelings is achieved.

2.10 Emotion, Affect, and Mood

Hull, Stewart, and Yi (1992) recognized the relevance of emotions, mood, and other affective feelings for leisure research. Similarly, Hull (1991) identified mood as specific subjective feelings and “one of the more relevant products of leisure management efforts” (p. 249). Previous research has suggested that the leisure experience is dynamic and multi-dimensional (Hull, Stewart, & Yi, 1992, Lee, Dattilo, & Howard, 1994, and Lee & Shafer, 2002). As such the leisure experience was recognized to include positive as well as stressful or unpleasant experiences (Lee et al.). Lee and Shafer noted that the moods of recreationists shifted between negative and positive throughout the recreational experience; in fact emotions fluctuated depending on the types of situations encountered. “Leisure is something relaxing not stressful” is one participant statement captured in a qualitative investigation of the leisure experience by Lee, Dattilo, and Howard (p. 202). Such statements inherently point to the impact and importance of conflict and particularly any associated emotions. Unfortunately, there is limited

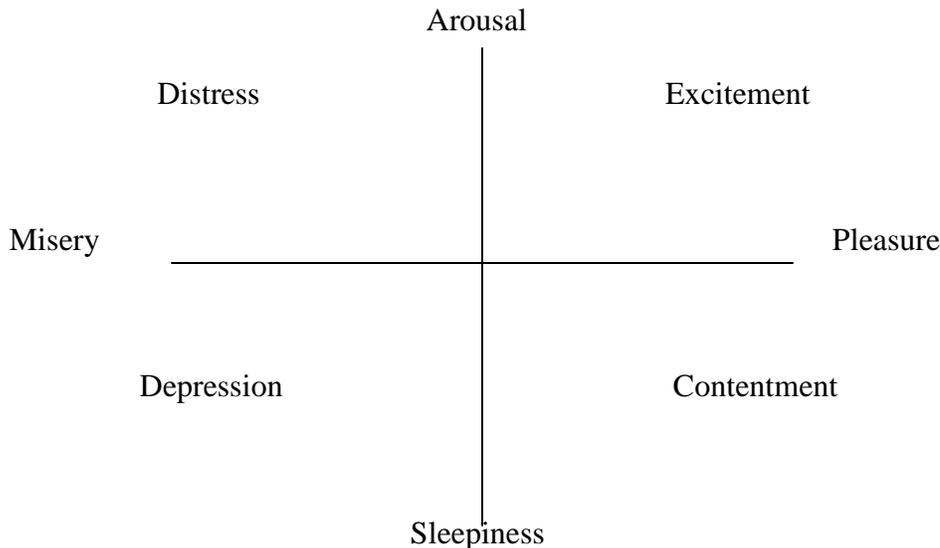
information in the leisure literature that identifies what emotions occur and why (Lee & Shafer). Lee and Shafer suggest that the Affect Control Theory (ACT) helps further the understanding of emotions experienced during leisure pursuits.

The ACT investigates social interactions and posits that individual definitions of particular situations have associated affective meanings (i.e., associations). Emotions are an outcome of social interaction and are therefore important to the ACT. These affective meanings are represented by EPA dimensions, namely: Evaluation (e.g., good-bad, nice-awful), Potency (e.g., powerful-powerless, big-little), and Activity (e.g., lively-tranquil, fast-slow). ACT proposes that individuals identify themselves or create a situated self-identity (e.g., who they are in the setting) while associating affective meanings based on the EPA dimensions called *fundamental sentiments*. The occurrence of an event (e.g., encountering another person) results in affective meanings called *transient sentiments* that may differ from the individuals' fundamental sentiments. A large enough difference (or deflection) between the fundamental and transient sentiments results in either actions or cognitive revisions that serve to bring the disturbance back in accordance with the original fundamental sentiments. Emotions are created as a function of two factors: (1) the transient sentiments of a situated self-identity and (2) any deflection that has occurred. Transient sentiments determine the emotion when the deflection is large; however, when small the emotion is determined by the fundamental sentiments. Unfortunately, in most leisure experiences multiple events or encounters can occur. Each event has the potential to create another emotion. For independent events deflections are evaluated against the difference between fundamental and transient sentiments. If events are dependent (i.e., one causes the other) affective meanings associated with the first event become fundamental sentiments in future events (Lee & Shafer, 2002).

Enhanced understandings and conceptualizations of affect have also been developed (Watson, Clark, & Tellegen, 1988). The Positive and Negative Affect Scales (PANAS) proposed by Watson, Clark, and Tellegen is one of the most recognized of its kind and has received a great deal of empirical attention (Watson & Clark, 1994 & Crawford & Henry, 2004). The scales were developed to measure positive and negative affect; the two primary dimensions of mood. According to Watson et al., positive affect “reflects the extent to which a person feels enthusiastic, active, and alert”, while negative affect “is a general dimension of subjective distress and unpleasurable engagement that subsumes a variety of mood states, including anger, contempt, disgust, guilt, fear, and nervousness” (p. 1063). The negative affect scale included the following ten terms: afraid, scared, nervous, jittery, irritable, hostile, guilty, ashamed, upset, and distressed. The positive affect scale was composed of: active, alert, attentive, determined, enthusiastic, excited, inspired, interested, proud, and strong. Negative affect is particularly important because in self-report studies it has been related to stress, poor coping and unpleasant events; all of which have a fundamental connection to outdoor recreation conflict.

Affect has also been heavily studied by Russell (1980; 1999; 2003), Russell and Snodgrass (1987), and by Vitterso, Chipeniuk, Skar, and Vistad (2004) in connection with outdoor recreation conflict. Russell (1980) proposed a bipolar two-dimensional circular model of affect with the pleasure-displeasure dimension vertical and the arousal-sleep (activation-deactivation) dimension horizontal (See Figure 1). Affect was recognized as both pleasure-displeasure and arousal conceiving that it was possible to describe a person’s conscious experience using a combination of the two dimensions.

Figure 1: Circumplex Model of Affect¹



¹From Russell, J. A. (1980). A circumplex model of affect. *Journal of Personality and Social Psychology*, 39(6), 1161-1178.

As mentioned previously, affect is often used synonymously with emotion, mood, and feelings. Russell (2003) stated that “There is no formal criteria for what is and what is not an emotion” (p. 145). As a matter of further confusion Russell and Snodgrass said that emotion can be defined narrowly (e.g., falling in love) or broadly (i.e., as vague feelings of mood, attitudes, or preferences). Emotions are also typically about something (e.g., being afraid to bungee jump) or directed at something or someone (e.g., angry at the mountain biker) (Russell, 2003). Emotions can also be regarded as long-term (e.g., loving one’s parents) or short-term dispositions (e.g., because of an event that has occurred) (Russell & Snodgrass). Important elements of short-term dispositions are *affective appraisals* and *emotional episodes*.

Affective appraisals represent how we interpret other people, places, events and things, and as such make a judgment about its attractiveness or repulsiveness. Specifically, affective appraisals “are those judgments concerning the capacity of the appraised object to alter mood” (Russell & Snodgrass, 1987, p. 249). Affective appraisals have also been called evaluative

cognitions or emotional affordances (Hull, 1991). Emotional episodes represent an emotional reaction to something. Russell (2003) specified that emotional episodes consisted of the following components: antecedent event, affective quality, attribution, appraisal, instrumental action, physiological and expressive changes, subjective conscious experiences, emotional meta-experience, and emotion regulation. More generally, emotional episodes are recognized as consisting of behavioural, physiological, and mental components (Russell & Snodgrass, 1987). Behavioural may represent an expression (e.g., smile, tone of voice, etc.) or be instrumental (e.g., flight or aggression). Physiological, reflects changes in our autonomic nervous system (e.g., increased heart rate, blood pressure, etc.) and can be captured in Russell's (1980) arousal dimension. The mental component is unique because it includes the aforementioned affective appraisal, which permits us to be aware of our mood or emotional state (Russell & Snodgrass). Russell's (1980) affect dimensions are inherently important to emotional episodes. Recall that Russell (2003) suggested that a person's conscious experience could be described with both pleasure-displeasure and arousal dimensions. In fact, he said that, "by themselves, pleasure and arousal do not fully account for most emotional episodes" (p.155). The following section presents a proposed model of outdoor recreation conflict that attempts to go beyond conventional understandings by recognizing the important role of affect (i.e., emotions) in the occurrence of conflict.

2.11 Proposed Outdoor Recreation Conflict Model

One of the primary purposes of the following study is to evaluate and re-conceptualize the theoretical understanding of outdoor recreation conflict. Previous theories of conflict have been proposed (Jacob & Schreyer, 1980; Lindsay, 1980; Bury, Holland & McEwen, 1983) as have models that attempted to explain conflict from a stress and coping perspective; the most

recognized of these being Lazarus and Folkman (1984). These theories have become the main stay for leisure researchers seeking a greater understanding of conflict with limited attempts made to expanding on the Lazarus and Folkman model (See Schneider & Hammitt, 1995). More recently Miller and McCool (2003) and Schuster, Hammitt, and Moore (2003) utilized the Lazarus and Folkman model of stress and coping to expand upon the understanding of the coping process. Miller and McCool for instance found a relationship between individual reported levels of stress and the type(s) of coping responses used. Higher levels of stress were associated with the use of direct action coping strategies as opposed to cognitive adjustments often used when re-evaluating a stressful situation.

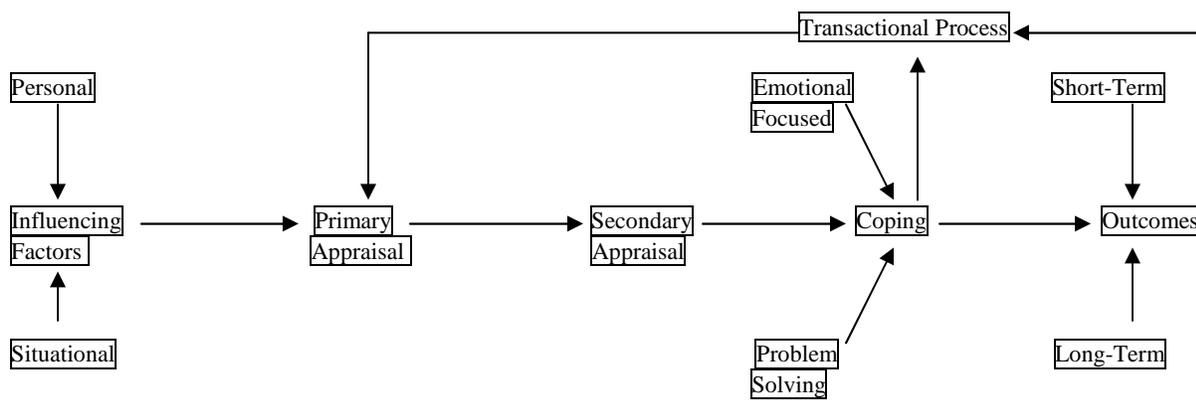
Oftentimes however, when researchers speak of stress and coping processes, the notion of conflict receives very little explicit attention based on the assumption that there currently exists an accurate and accepted understanding of conflict itself. Lazarus and Folkman (1984) and Schneider and Hammitt (1995) both emphasize the importance of stress and perhaps more importantly that conflict is in fact a process of situation appraisal and coping responses. The earlier conceptualizations proposed conflict to be goal interference attributed to another's behaviour (Jacob & Schreyer, 1980) or whenever incompatible activities occur (Lindsay, 1980).

These conceptualizations however fail to take into consideration the effect of emotions when understanding conflict. In fact Lazarus himself admitted that a move towards emotions and away from stress could contribute to recreational conflict understanding (Vitterso et al., 2004). The intent of the following conceptualization is not to eliminate stress from our understanding, but rather to recognize it as "a part of the much broader and richer rubric, emotions" (Vitterso et al. 2004, p. 237). When Jacob and Schreyer proposed their model,

emotions were not regarded as a scientific issue and were therefore not considered an element in their model (Vitterso et al. 2004).

The proposed model of conflict is one that can be placed within the larger picture of the ‘transactional processes’ of stress and coping proposed by Lazarus and Folkman (1984). Before expanding it is important to provide a brief overview of the Lazarus and Folkman model. Figure 2 represents the Lazarus and Folkman model. Their model includes personal and situational influencing factors, appraisals, coping, and outcomes. Personal factors influence how individuals perceive the person-environment relationship, while situation factors reflect novelty, predictability, duration, and imminence. These factors contribute to the cognitive appraisal of a situation as being stressful or not (Lazarus & Folkman, 1984; Schuster et al. 2003). Two separate appraisals are proposed, with the first responsible for assessing a situation to be stressful and the second representing an appraisal of the availability of coping options and the likelihood that a given coping response will achieve the desired effect. Coping then works to manage the appraised stressor, with the individual having the option of emotion-focused (i.e., avoidance, distancing, etc) or problem-focused (i.e., choosing solutions and acting on them). What results are both short-term and long-term outcomes.

Figure 2: Transactional Stress/Coping Model^{2,3}

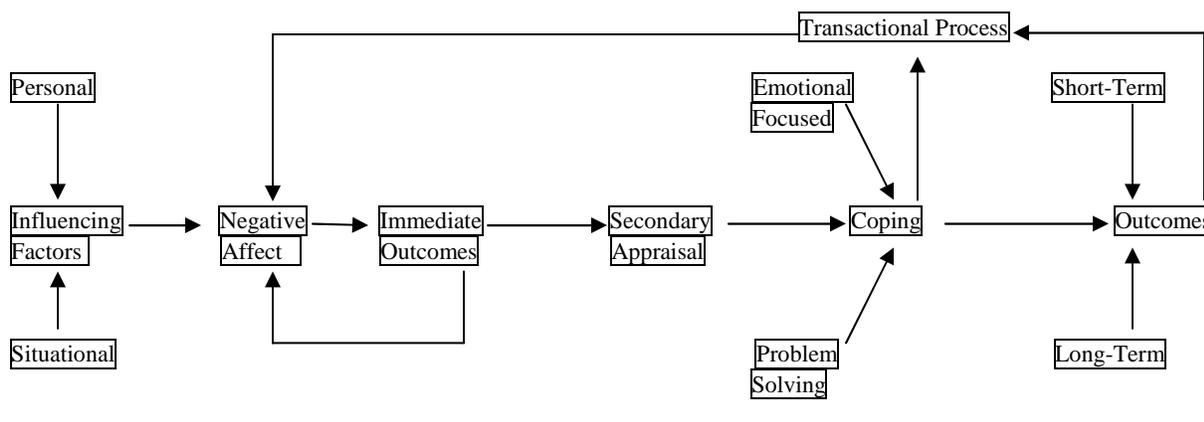


²From Lazarus, R. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

³Schuster, R. M., Hammitt, W. E. & Moore, D. (2003). A theoretical model to measure the appraisal and coping responses to hassles in outdoor recreation settings. *Leisure Sciences*, 25, 277-299.

The proposed model (Figure 3) suggests that conflict is a *negative affect* that is represented by a reciprocal reaction of our emotions (i.e., those feelings of being angry at someone, frustrated by the actions of another person, etc), our core affect (i.e., our changing feelings of pleasure-displeasure and tension-relaxation), and our cognitive appraisals or attributions (i.e., the way we mentally or cognitively make sense of the situation/event occurring around us). Called a ‘prototypical emotional episode’ (PEE), this reciprocal reaction is derived from the work of Russell and Barrett (1999) who offered one of the most comprehensive conceptualizations of peoples’ emotional reactions to situational episodes.

Figure 3: Revised Outdoor Recreation Conflict Conceptualization

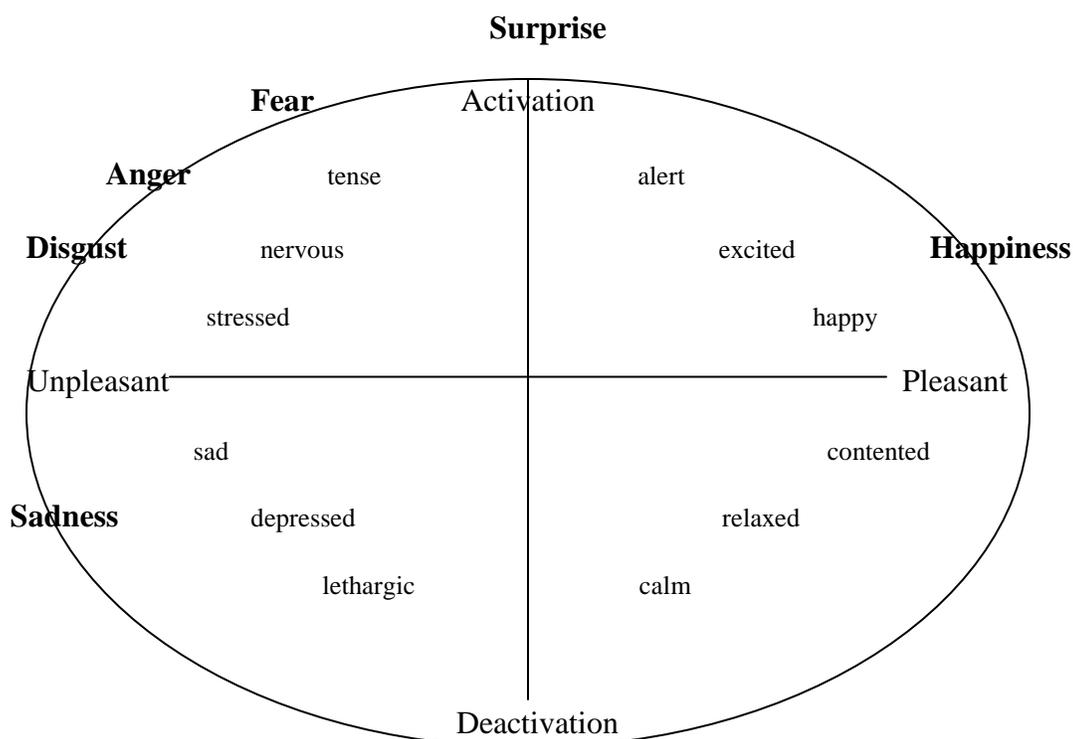


² Adapted from Lazarus, R. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

“A prototypical emotional episode is a complex set of interrelated subevents concerned with a specific object” (Russell & Barrett, 1999, p. 806). The emotional component as mentioned above consists of those feelings of being angry at someone and highlights the importance that a specific action or event play in producing emotional responses. Core affect on the other hand is described as related, partly overlapping but far from identical to emotions described above. According to Russell and Barrett *core affect* refers “to the most elementary consciously accessible affective feelings” (p. 806). Core affect is unique because it is occurring all of the time and does not necessarily need to be directed at a specific object. For example, a person may wake up happy or experience a change in their core affect because of a specific event. For example a person may develop feelings of anger towards a person because of their actions on the trail and will subsequently experience a change in their core affect from happy to stressed. As such core affect establishes the level of activation-deactivation and pleasure-displeasure in the experiencing of anger. Stress, for example, according to Russell and Barrett would represent a feeling of activated displeasure. See Figure 4 for an illustration of the difference between emotions and core affect. Cognitive appraisals intervene to identify

objects/events/persons and develop feelings of core affect. A PEE also recognizes the role of physiological body reactions (e.g., increased heart rate). For the purposes of this investigation such physiological reactions are being considered within the context of core affect. For example, the experiencing of stress and tension are assumed to coincide with increases in heart rate and the prepping of muscles for fight or flight responses (Russell & Barrett).

Figure 4: Emotions versus Core Affect⁴



Note: The outer circle represents emotions, while the inner circle represents core affect.

⁴From Russell, J. A. & Barrett, L. F. (1999). Core affect, prototypical emotional episodes, and other things called emotion: Dissecting the elephant. *Journal of Personality and Social Psychology*, 76(5), 805-819.

Arousal implies a certain level of activation and “contributes to the vigor, speed, and intensity with which any specific action plan is pursued” (Russell, 2003, p. 168). Such action plans would be assessed during the secondary appraisal and coping phases of the model. The emotional component contributes to the vigor and intensity of the action itself (Russell, 2003).

For example, an intense feeling of anger from an event would contribute to the intensity of the chosen coping mechanism. The emotional and core affect components only include negative associations because, “the mental response to unwanted situations that occur...is a negative emotion” (Vitterso et al. p. 237). Consequently, changes in core affect will include only heightened levels of arousal associated with a negative event (e.g., feeling tense because of your anger towards another). The cognitive element represents attributions and appraisals and consequently places Lazarus and Folkman’s primary appraisal within this (i.e., prototypical emotional episode) new understanding of conflict. It is important to note that cognitions are also quite emotional because it is possible to appraise an event as pleasant or stressful.

The non-recursive nature of this conflict conceptualization (Figure 3) is easily explained by Lazarus and Folkman: “Traditionally, emotion has been treated separately from cognition. It is an error to postulate that feelings precede cognition or that cognition precedes emotion. Causality is bi-directional. It is also an error to view emotion and cognition as separate” (1984, p. 285). As such, it has been suggested in theory, “that few meaningful thoughts, actions or environmental encounters occur without affect” (Vitterso et al. 2004, p. 229).

It is also suggested in this proposed model that conflict also includes what is being termed, ‘immediate outcomes’ or post-appraisal outcomes, which are separate from the short and long-term outcomes identified by Lazarus and Folkman. Goal interference, which has previously been defined as conflict, now represents an immediate outcome as a direct result of negative affect. Other immediate outcomes include motivational disruption as well as interpersonal, intrapersonal, and structural constraints (See Walker & Virden, 2005). As immediate outcomes, interpersonal constraints may be the presence of social factors (e.g., encountering other participants having different leisure preferences) that have occurred since participation began.

Intrapersonal constraints as immediate outcomes may include the sudden feeling of anxiety that in turn affects the formation of current leisure preferences. Walker and Virden (2005) recognized the need to consider social environment and territorial structural constraints. In the present model social environment structural constraints include crowding. As crowding may be an immediate outcome from the experiencing of a negative emotion. The wilderness required for outdoor recreation participation is also a contested space. The competition for the space may represent a structural constraint if experiencing a negative event results in the need or the feeling to fight for a specific outdoor recreation area. These outcomes will be identified by the individual experiencing negative affect during the cognitive appraisal portion of the emotional/non-emotional and cognitive response. These immediate outcomes are critical because it is postulated that immediate outcomes that are evaluated as being extremely detrimental to a person's recreational experience, will increase the magnitude of the negative affective feelings, which may introduce other immediate outcomes. The individual will then engage in the secondary appraisal proposed by Lazarus and Folkman as a means of evaluating the availability and effectiveness of potential coping responses.

The critical elements of the above model worth noting are those that reflect the new conceptualization of conflict. Conflict is now the experiencing of negative affect (i.e., a negative feeling response) illustrated by the reciprocal interaction of negative emotions (e.g., anger, fear, etc), core affect (e.g., tense, stressed, etc), and cognitions (e.g., appraisals). Emotions, core affect, and cognitions guide my research associated with scale development and testing. Antecedent factors (e.g., place attachment, resource specificity, etc) are addressed more specifically in the questionnaire as a means to further our overall understanding of the entire conflict conceptualization. The proposed model and antecedent factors were initially evaluated

using one-on-one semi-structured interviews with outdoor recreation participants to assess the accuracy of the model in an outdoor recreation setting. Vitterso et al. (2004) pointed out that affect (or subjective feelings), “should be an explicit part of a comprehensive theory of recreational conflict” (p. 237). The reciprocal or transactional process between coping, short and long-term outcomes and the newly inserted negative affect domain were retained from the Lazarus and Folkman model. It is hypothesized that coping and outcomes are continually evaluated against the negative affect experienced by an individual. In addition to the examination of the relationship of affect, emotion in this process, this study also explores the influence of resource specificity, place attachment, leisure socialization as well as micro and macro level factors identified by Walker and Virden (2005).

The proposed conceptualization of outdoor recreation conflict represents an expansion of our current understanding but borrows from the work on stress and coping conducted by Lazarus and Folkman (1984) and emotions by Russell and Barrett (1999). Previous conflict research had either ignored the role of emotions (e.g., Jacob & Schreyer, 1980; Lindsay, 1980) or limited the role of emotions to stress (Lazarus & Folkman, 1984; Hammitt & Schneider, 1995). The psychological literature has long recognized the importance of emotions in our daily lives but also the difficulty in measuring and understanding emotions (e.g., Russell, 1980; 1999; 2003; Storm & Storm, 1987; Shaver, Schwartz, Kirson, & O’Connor, 1987). Russell (1980; 1999; 2003) has been at the forefront of emotional research, but to date little research has been conducted in an effort to connect the emotional research being conducted in psychology and social psychology to the research being undertaken in the recreation and leisure fields to understand outdoor recreation conflict. It is thus my belief that recognizing and incorporating the emotional research conducted by Russell can achieve advancement in our understanding of

outdoor recreation conflict. Having discussed the proposed outdoor recreation conflict model in some detail, the following sections are devoted to the management of outdoor recreation environments, with attention given to the management of conflict in the later sections.

2.12 Outdoor Recreation Management

Aldo Leopold once wrote,

We end, I think, at what might be called the standard paradox of the 20th century: our tools are better than we are, and grow faster than we do. They suffice to crack the atom, to command the tides. But they do not suffice for the oldest task in human history: to live on a piece of land without spoiling it. (Plummer, 2005, p. 183)

Natural resources and outdoor recreation management is recognized as a very complex endeavour (Cordell & Super, 2000). Although a number of environmental and social issues exist, conflict in outdoor recreation is arguably one of the most challenging with which managers must be able to contend (Schneider & Hammitt, 2000). Unfortunately, outdoor recreation managers are forced to uphold a dual mandate; providing a high level of enjoyable and satisfying recreational opportunities, while simultaneously ensuring the conservation of park resources for future generations (Manning, 2001). Management efforts are compounded by the differing perceptions of wilderness and outdoor recreation by the public, park managers and other stakeholders. “The resulting images of wilderness that emerge from these different perceptions can lead to wide differences of opinion with regard to questions concerning appropriate use, development, and management” (Stankey & Lucas, unpublished, p. 6). The need for new and creative management approaches has been realized (Hendricks, 1995), with a variety of management practices having been suggested for problems surrounding crowding, conflict, and environmental impacts (Manning, 1999). Too often however, recreation managers resort to managing “as they ‘always have’ in the past without incorporating new professional knowledge. In the process, they have been ‘condemned’ to not take advantage of the new and better

management practices” (Moore & Driver, 2005, p. 155). The astuteness of this statement is quite relevant when speaking of outdoor recreation conflict and its management. As will be presented in the next several sections, there are a variety of outdoor recreation management tools available to parks and natural resource managers. The one drawback is that very few of these tools were designed purposefully for managing conflict and are therefore rarely if ever applied explicitly to manage outdoor recreation conflict. Many of the tools can however, be utilized effectively to manage and even limit conflict occurrences. There is reason to believe that the limited use of management tools to manage conflict is the result of a lack of exposure to both management and outdoor recreation conflict knowledge. Recognition of the need for an improved understanding of outdoor recreation conflict (Schneider, 2000a) and greater knowledge sharing between stakeholders (Spiers & Plummer, 2005) is at the heart of my proposed research.

2.13 History of Outdoor Recreation Management

Early opinions regarding the North American wilderness concerned development, farming, mining and logging; the intent was material benefit (Lucas, 1964). The evolution of wilderness management has progressed through early settlement, custodial/low-priority management, overt/extensive management, and intensive management (Jubenville & Twight, 1993; Moore & Driver, 2005).

The settlement era saw a period of land management that was essentially hands off (Moore & Driver, 2005). Outdoor recreation pursuits were adventurous and included hunting, fishing, trapping, exploring and orienteering, and despite the hands off approach, by 1800, laws regulating hunting were beginning to take shape (Moore & Driver). Although some policy directives at the local level were being implemented, scientific research had not yet found its place within land management (Moore & Driver).

Custodial management was underway by the 1890's, evidenced in the United States by the first conservation movement credited to President Theodore Roosevelt (Moore & Driver, 2005). This era promoted the protection of land and not necessarily its utilization. Examples of such efforts included, prevention of damage to watersheds, reforestation and prevention of wildfires (Moore & Driver). However, little access existed to the lands, no recreation facilities were developed and no outdoor recreation management efforts were in place (Jubenville & Twight, 1993). In the early 1900's Gifford Pinchot developed the first natural resources principles for multi-use management (Moore & Driver). Although public interest in outdoor recreation increased in the 1920's, management attention remained scarce until around the 1930's (Jubenville & Twight; Moore & Driver). The 1930's saw outdoor recreation and land management become a low-priority as the management of public lands was seen to becoming an increasingly important issue (Moore & Driver). The end of World War II ushered in the extensive/overt management era. People had increased money and free time and land managers were forced to "interpret the real significance of increased recreational participation" (Jubenville & Twight, p. 6).

As Moore and Driver (2005) acknowledged, "The beginning of this period marks a significant turning point in the history of managing public lands outdoor recreation and related amenity values" (p. 159). Resource and visitor management programs were expanded with the aim of protecting the resource base, while maintaining recreation opportunities for a variety of groups (Jubenville & Twight, 1993). New kinds of equipment were available such as snowmobiles, trail bikes and all-terrain vehicles, that which managers were forced to contend with (Jubenville & Twight). The intensive management era is the current era of land management, although many argue that intensive management has not yet been reached and will

never be attained (Jubenville & Twight). This era has resulted in the development of the management-by-objectives approach (Jubenville & Twight) and has also brought forth a number of principles with which managers are able to use to guide management practices.

2.14 History of Leisure and Recreation in Canada

Karlis (2004) offers a fairly detailed overview of the history of leisure and recreation in Canada. In fact, he noted that leisure, recreation, and physical activity can be traced back to the Inuit and other Aboriginal peoples of southern Canada. Although evidence exists suggesting that the Inuit played games, musical instruments and sang songs, their primary concern was survival. In fact, many of the games played were based on survival skills such as fishing and hunting. Early settlers to Canada prior to the Dominion were able to adapt well to the native activity pursuits. These early settlers also brought forth many of their own activity pursuits such as dancing, horse racing, football, and running. During these formative years of Canada, the natural outdoors grew in appreciation as a leisure and recreation experience. Unfortunately, these early settlers were in the process of building what would become Canada and did not set aside much time for leisure and recreation pursuits.

By the 1850's public parks were initiated in Ontario as well as the first commercial leisure initiatives (i.e., Royal Canadian Yacht Club). At this time, the volunteer sector of leisure recreation was also formed, with the YMCA being established in 1851.

During the time following the formation of the Dominion of Canada in 1867, leisure and recreation needs began to change as Canadians experienced greater freedom, democracy, and independence. The volunteer section expanded and attitudes of men towards women began to change. It was now viewed as acceptable for women to participate in croquet, lawn tennis, golf,

archery, roller skating, and ice skating. Ice hockey blossomed during this period, with organized hockey first appearing in 1884 with the establishment of the Montreal Hockey Club.

Railway and waterway expansion led to the development of commercial tourism and recreation growth, including the development of the national park system. This was appropriate as parks began to be viewed as idealized landscapes. Their purpose; refreshment of the mind, body, and spirit through the experiencing of nature. But perhaps most importantly during this time was the formation of the National Council of Women in 1893. The council was responsible for several developments towards the end of the nineteenth century, including: (1) the establishment of the Playground Movement; (2) examination of youth and leisure and recreation issues, and (3) the bringing forth the value of leisure and recreation pursuits, which lead to greater federal government involvement.

During the first decade of the twentieth century three important things occurred. First, the Playground Movement took place with playgrounds being established across Canada from Saint John to Vancouver. Second, the Lord Day's Act was established in 1907, which lead to what we call 'weekends' today and the issues of mandatory time off work and holidays. As such leisure was something that was pursued during discretionary time. Finally, the first automobile, the Ford Model-T was introduced, which lead to the popularization of pleasure travel and the weekend trip.

In 1912 and 1913 emphasis was on the development of recreation leaders along with the professionalization of leisure services in Canada. By the 1920's most urban centers in Canada had established organized public parks and recreation systems, particularly organized sports and sports leagues. Development was so immense that this time has been referred to as the Golden Age of Sport.

Between the 1930's and the years of World War II, physical recreation became a major concern for both the provincial and federal governments. An increasing number of recreation opportunities were being offered to the public free of user fees (i.e., Pro-Rec Initiative) and the passing of the Purvis Commission, marked an era of federal-provincial support of physical recreation and physical fitness. During the war, although many recreation facilities were converted to housing, recreation was reinforced as a means of diversion to maintain morale health. Following the war, reconstruction efforts began in an effort to re-establish many of the public recreation facilities.

Similarly, in 1946, the Parks and Recreation Association of Canada held its first congress with the purpose to help, "establish a national voice for leisure and recreation with a mission to address the needs of society in this area" (Karlis, 2004, p. 61).

The 1950's-1970's saw a growth in services, opportunities, and consumerism in Canada. Television became extremely popular as did mechanized transportation (e.g., automobile, motorboats, etc) and the economy became very service oriented as opposed to product based. The 1960's until the late 1970's witnessed an increased concern for environmental conservation and a realization that the earth's resources were finite. Not surprisingly the areas of leisure research grew tremendously during this time. Consequently, this led to a high appreciation for recreation and a demand for recreation as a basic right. Focus shifted from structured or organized recreation pursuits to less organized experiences that were more self-directed and spontaneous. Concern also shifted to view leisure and recreation as a means for preventative health care. An excellent example of this movement was with the creation of PARTICIPaction in the 1970's that encouraged Canadians to become more active. The fitness craze continued throughout the decade culminating with the development of the Lalonde Report, which played a

major role in building the National Health Promotion Directorate and spawning the fitness revolution of the 1970's.

The 1980's witnessed cutbacks in the public sector of recreation and leisure services reducing the availability of public leisure services. Dissatisfaction with the public leisure services continued through the 1990's as fees and charges were increased as a means to increase revenues and thus the provision of public leisure services. At the same time governments were attempting to become more efficient by spending less. As a trade-off, recreation and leisure were seen as a way to reduce health-care costs. The provision of leisure services in Canada today, however, is quite complex and is the subject of the following section examining outdoor recreation management in Canada.

2.15 Outdoor Recreation Management in Canada

Canada has approximately 417.6 million hectares of forest, of which approximately 37% is available for outdoor recreation (Plummer, 2005). Examination of outdoor recreation participation was most comprehensively examined through the Survey on the Importance of Nature to Canadians' (SINC; Plummer). The most recent version of the survey, administered in 1996 provided the most accurate depiction of outdoor recreation participation in Canada. It was found the approximately 85% of Canadians over the age of 15 participated in "activities related to nature" with Alberta attaining the greatest participation at nearly 90% (Plummer, p. 157). Canadians surveyed participated most in camping (18.8%), although generally the greatest amount of participation was in relaxing, sightseeing, and picnicking in the outdoors.

Provision of these opportunities falls on the shoulders of the leisure delivery system. In Canada, the leisure delivery system "serves two major functions with respect to outdoor recreation: the protection, development, enhancement, and management of natural areas, and the

development and management of outdoor recreation leadership and programs” (Searle & Brayley, 2000, p. 193). To be effective the delivery system is dependent upon three sectors: government, non-governmental organizations, and commercial/private enterprise.

Government administrative agencies in each of Canada’s provinces hold the authority over the provision of outdoor recreation (Plummer). As Searle and Brayley (2000) pointed out, “the power to influence areas directly related to outdoor recreation rests with generic equivalents of a Ministry of Forests, Department of Natural Resources, Ministry of Parks or Recreation and Tourism” (p. 195). For example, within Ontario, the Ontario Ministry of Natural Resources is primarily responsible for providing outdoor recreation, although other administrative units exist that concentrate on environmental issues (e.g., watershed science; Plummer, 2005). Government involvement in the provision of outdoor recreation is also found at the regional and municipal levels, as well as with city governments (Plummer).

Given that 27% of Canadians volunteer, it is not surprising that a number of volunteer organizations/groups or non-governmental organizations have taken on a large role in the provision of outdoor recreation (Plummer). According to Searle and Brayley (2000), volunteer organizations serve three primary purposes in Canada. The first role is that of advocacy. Many volunteer organizations will advocate protecting pristine natural landscapes from logging (e.g., First nation’s opposition to the logging of South Morseby Island in British Columbia). Volunteer organizations are also directly involved in the provision of recreation programs as well as the raising of money to fund the provision of programs and services. According to Plummer, one such example is the “Friends of organizations” (e.g., Friends of Algonquin Provincial Park). “The Friends of Algonquin Provincial Park offer interpretive and education experiences for

visitors as well as providing publication materials and donations to fund park services” (Plummer, p. 172).

The commercial or private sector of the delivery system is motivated by profit and impacts the greatest number of people (Plummer, 2005). The commercial sector according to Searle and Brayley (2000) is, “administered by corporations, syndicates, partnerships or private owners” (p. 126). They have identified four main types of recreation service industries comprising the commercial sector. These include the small business, such as the family run fly-shop or guiding service that would possess capital assets under \$250,000. Next are those larger outdoor recreation businesses or corporations with assets above \$250,000. One example is the educational provider, Outward Bound. Finally, there are those corporations that have assets over 25 million dollars. One example given by Searle and Brayley is Canadian Pacific Resorts.

Although the above three sectors have been mentioned independently, it should be noted that effective delivery of outdoor recreation opportunities is dependent upon the simultaneous operation of all three sectors. Oftentimes, effective outdoor recreation provision is delivered through competition between the public and private sectors (Plummer, 2005). Such competition is often viewed positively because as Plummer described, “the commercial sector helps to achieve the public mandate by providing services which the government is unable to provide while the public sector also extends funding to such enterprises” (p. 174). Although the leisure service delivery system was developed to meet the demands for recreational pursuits in Canada, its effectiveness often depends on general management principles and more specific managerial tools and techniques. The following sections provide an overview of many of these principles and tools. It should also be noted that these principles and tools are not restricted to a Canadian

context. Research and development over the years has created an abundance of management approaches that have been broadly applied throughout Canada and the United States.

2.16 General Management Principles

The complex nature of land and outdoor recreation management requires a unique understanding of the various factors, which can influence the types of practices employed by managers. The past few decades have revealed a tremendous amount about both land management from an ecological standpoint and the social management of outdoor recreation experiences. Moore and Driver (2005) and Manning (1999) have each presented principles to guide ecological management and outdoor recreation respectively.

Moore and Driver's principles included:

- (1) Manage wilderness as the most pristine extreme on the environmental modification spectrum.
- (2) Manage wilderness comprehensively, not as separate parts.
- (3) Manage wilderness, and sites within, under a nondegradation concept.
- (4) Manage human influences – A key to wilderness protection.
- (5) Manage wilderness biocentrically to produce human values and benefits.
- (6) Favor wilderness-dependent activities.
- (7) Guide wilderness management using written plans with specific area objectives.
- (8) Set carrying capacities as necessary to prevent unnatural change.
- (9) Focus management on threatened sites and damaging activities.
- (10) Apply only the minimum tools, regulations, or force to achieve wilderness-area objectives.
- (11) Involve the public as a key to the success of wilderness management.

(12) Monitor wilderness conditions and experience opportunities to guide long-term wilderness stewardship.

(13) Manage wilderness in relation to management of adjacent lands.

Manning's principles included:

(1) Outdoor recreation should be considered within a three-fold framework of concerns: the natural environment, the social environment, and the managerial environment.

(2) There is substantial diversity in outdoor recreation.

(3) Diversity is needed in outdoor recreation opportunities.

(4) Explicit objectives are needed to guide management of outdoor recreation.

(5) Recreation management should be applied thoughtfully, but deliberately.

(6) Outdoor recreation is most appropriately defined in terms of motivations and benefits rather than participation in activities.

(7) Quality in outdoor recreation can be defined as the degree to which recreation opportunities provide the experiences for which they are designed and managed.

(8) Satisfaction of visitors to outdoor recreation areas is a multifaceted concept.

(9) There is a high degree of interrelationship among outdoor recreation issues and variables.

(10) A concerted effort is needed to obtain systematic and objective information about and from visitors.

(11) Outdoor recreation opportunities should be managed for identifiable segments of the visitor population.

(12) A variety of practices are available for managing outdoor recreation.

Each of the above principles represents the accumulation of outdoor recreation/conflict variables previously discussed and the numerous management approaches to be discussed in the proceeding sections. However, before going into detail, it is critical to first understand the many functions served by outdoor recreation management.

2.17 Management Function

Management as defined by Moore and Driver (2005) represents those specific actions taken on the ground in order to successfully achieve policy goals. Management also serves the purposes of producing goods, which under the present circumstances would include providing recreation opportunities, and secondly protecting the natural resource to ensure its sustainability (Moore & Driver). Management according to Jubenville and Twight (1993) can be divided into three primary functions: visitor management, resource management, and service management. Visitor management is focused on creating an enjoyable social environment and includes the need to understand visitor motives, perceptions, styles of participation, and individual needs (Jubenville & Twight, 1993). In doing so managers need to differentiate between what visitors consider satisfying and dissatisfying experiences, understand the various relationships visitors have with the social, physical and managerial environments, and also understand why visitors behave the way that they do (Moore & Driver). Resource management involves enhancing recreational opportunities and protecting resources from deterioration through the manipulation of the resources themselves (Jubenville & Twight). Monitoring of resource features such as soil, water and flora and fauna and instituting management programs are critical to resource management success. Further discussion of management programs or approaches will be discussed in the following sections. Service management is concerned with providing specified visitor services through adequate area planning, concession management, and maintenance and

upkeep (Jubenville & Twight). In order to be successful, managers must consider all three management functions as integrated.

In order to improve management ability, managers are encouraged to focus on the aspects (of the environment and recreation experience) that they can influence (Moore & Driver, 2005). It has been suggested that management can function more effectively by influencing the following: amount/distribution of use, method of travel, group size, lengths of stay, visitor behaviour, visitor impacts, user knowledge, time of use, and season of use (Moore & Driver, 2005).

Successfully influencing these variables can be quite challenging. It is for this reason that managers have been endowed with a varied arsenal of tools, techniques and approaches. The following section is designed to provide an overview of several of the most commonly used outdoor recreation management practices.

2.18 Practices, Approaches, Tools and Techniques

The tools and techniques available for outdoor recreation management have received a considerable amount of attention over the years (Butler & Hvenegaard, 2002; Freimund & Cole, 2001; Haas, 2001; Hammitt & Cole, 1998; Hammitt & Schneider, 2000; Hendricks, 1995; Jubenville & Twight, 1993; Lucas, 1964; Manning, 1999; Manning, 2001; McCool, 2001; Mitchell, 1989; Moore & Driver, 2005; Payen & Nilsen, 2002; Plummer, 2005; Rollins & Dearden, 2002; Shelby & Heberlein, 1986; Slocombe & Dearden, 2002; Spiers & Plummer, 2005; SSHRC, 2002; Stankey & Manning, 1986; Stankey & Lucas, unpublished; Woodley, 2002; Wright, 2003).

As a traditional approach to land management carrying capacity has garnered a tremendous amount of attention (Haas, 2001; Mitchell, 1989; Payne & Nilsen, 2002; Shelby &

Heberlein, 1986; Stankey & Manning, 1986). With a rich history in the natural resource professions, carrying capacity received extensive use in wildlife management and managing animal numbers in specific habitats (Manning, 1999). Carrying capacities first real application was not recognized until 1964 when Wagar expanded the previously accepted form of carrying capacity, which only emphasized environmental effects, to also include a social element (Jubenville & Twight, 1993; Manning, 1999; Manning, 2001). Wagar's work also suggested that carrying capacity may fluctuate depending on the amount and type of management activity (Manning, 1999). What resulted was a three-dimensional model of carrying capacity once applied to outdoor recreation, which took into consideration the three environmental, social, and also managerial effects (Manning, 1999). Applying carrying capacity in recreational settings has been frustrating. The problem lies in the fact that no magic number exists that will determine optimum carrying capacity (Shelby & Heberlein). Managers have struggled with how much impact should be permitted to the environmental resources, to the quality of the recreation experience and also how much input management should have (Manning, 1999).

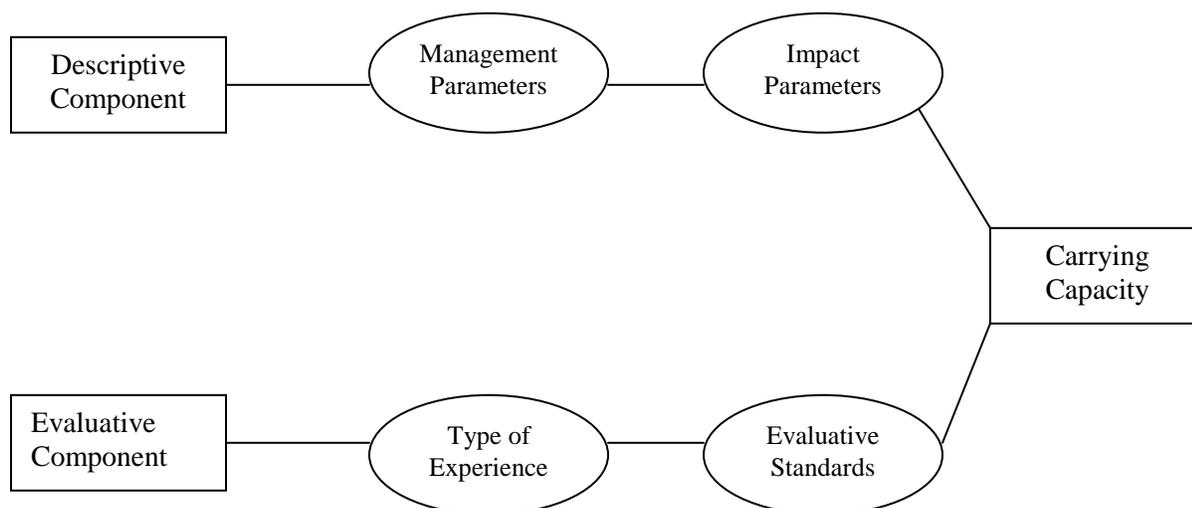
Answers to these questions have not come easily. Research has however, revealed that four different types of carrying capacity exist: ecological, physical, facility, and social (Manning, 1999; Shelby & Heberlein, 1986). Quite simply, ecological carrying capacity relates to ecosystem impacts and focuses on questions such as, "How does use level affect plants, animals, soil, water and air quality..." (Shelby & Heberlein, p. 19). Physical capacity is concerned with space impacts and looks specifically at managing the number of people in critical ecosystem areas or the number of people permitted to camp on a particular during a week. Facility capacity addresses visitor needs through concerns for the number of parking lots, boat ramps, restrooms

and campsites that are needed. Finally, social capacity is concerned with social impacts, which alter or diminish the quality of the human experience.

With its relevance to outdoor recreation, particularly conflict management, social carrying capacity becomes paramount. According to Shelby and Heberlein (1986), establishing social carrying capacity requires a descriptive and evaluative component. The descriptive component reveals to managers how a recreation system works (Shelby & Heberlein). Recreationists displace themselves in space and time, moving from and within different locations throughout days and nights. Consequently, the descriptive component answers questions such as, “What happens if 500 people per day enter a backpacking area? Do they spread out and never see one another, or do they crowd trails, get in each other’s way at visitor attractions, and compete for campsites?” (Shelby & Heberlein p. 12). The relationship between management parameters (i.e., any factor that can be directly manipulated by managers) and impacts is critical to the descriptive component (See Figure 5).

The evaluative component tells managers how a system should be managed while also specifying how much impact is too much (Shelby & Heberlein, 1986). In essence the evaluative component determines the merits of the management parameters for establishing which will be administered to manage social impacts. As such, evaluative standards are used to establish tolerable (i.e., maximum) and the most desirable (i.e., optimum) levels of impact (Shelby & Heberlein). For example, evaluative standards for crowding can be established once the acceptable number of encounters has been established.

Figure 5: Social Carrying Capacity Determination⁵



⁵ From Shelby, B. & Heberlein, T. A. (1986). *Carrying capacity in recreational settings*. Corvallis, OR: Oregon State University Press.

Defining the quality of the visitor experience and establishing minimum acceptable conditions as detailed above has also been studied from the perspective of indicators and standards of quality (Manning, 2001). Indicators represent the “measurable, manageable variables that define the quality of the visitor experiences and natural/cultural resources” and standards of quality define acceptable conditions (Manning, p. 93). Indicators can include such things as the number of hiker groups that walk past my campsite, percentage of time other people are in sight when on the trail, total number of people seen on a daily basis; all of which also relate to crowding as a conflict variable (Manning). Manning has also suggested that good indicators should possess the following characteristics: specific, objective, reliable, and repeatable, related to visitor use; sensitive, manageable, efficient and effective to measure; and significant. Similarly, standards of quality should possess the following characteristics: quantitative, time or space-bounded, expressed as a probability, impact-oriented, and realistic. Although carrying capacity has received mixed reviews concerning its effectiveness as a management tool, its applicability to manage social issues such as crowding and recreation conflict should not be overlooked.

Carrying capacity has also been used in the formation of various Visitor Management Frameworks (VMFs).

2.19 Visitor Management Frameworks

VMFs have been around for a number of years, received considerable attention as effective management tools (Hammit & Cole, 1998; Jubenville & Twight, 1993; Manning, 1999; Manning, 2001; Payne & Nilsen, 2002; Plummer, 2005), and been applied in a variety of park settings, including: Yoho National Park related to social concerns, and Columbia Icefields and Jasper National Park related to both social and ecological concerns (Payne & Nilsen, 2002). VMFs have also been applied to measure the number of people along trails in Yosemite National Park, number of snowmobiles encountered in Yellowstone National Park and number of boats seen on rivers in Canyonlands National Park (Manning, 2001). These types of applications are quite relevant to outdoor recreation conflict because of the attention given to crowding concerns.

The first and perhaps most recognized VMF is the Recreation Opportunity Spectrum (ROS) shown in Figure 6. Utilizing social versus ecological carrying capacity, ROS is “based on the idea that people participate in recreational activities in specific settings to achieve desired experiences and benefits” (Payne & Nilsen, 2002, p. 158). ROS works by systematically dividing up the landscape into a continuum from primitive (e.g., wilderness) to urban. ROS is also best applied at the landscape level and must take into consideration human modification, access, and user interactions when managing each spectrum. ROS’s explicit consideration of access concerns and user interactions permits its application in a variety of outdoor recreation conflict scenarios.

The Visitor Activity Management Process (VAMP) developed by Parks Canada in the 1980s revolves around visitor activity profiles (See Figure 7; Payne & Nilsen, 2002). The

profiles are created by connecting activities with the social and demographic characteristics of its participants, with the setting requirements and with significant trends affecting the activity.

VAMPs real focus is in understanding human activity and use. Although in use in Canada's national parks, VAMP has not to date been directly implemented as a means of limiting or controlling recreational conflict occurrences. Its focus at understanding human activity and use make it a natural partner to ROS for managing outdoor recreation conflict.

Figure 6: Recreation Opportunity Spectrum (ROS) (Source: Payne & Nilsen, 2002)

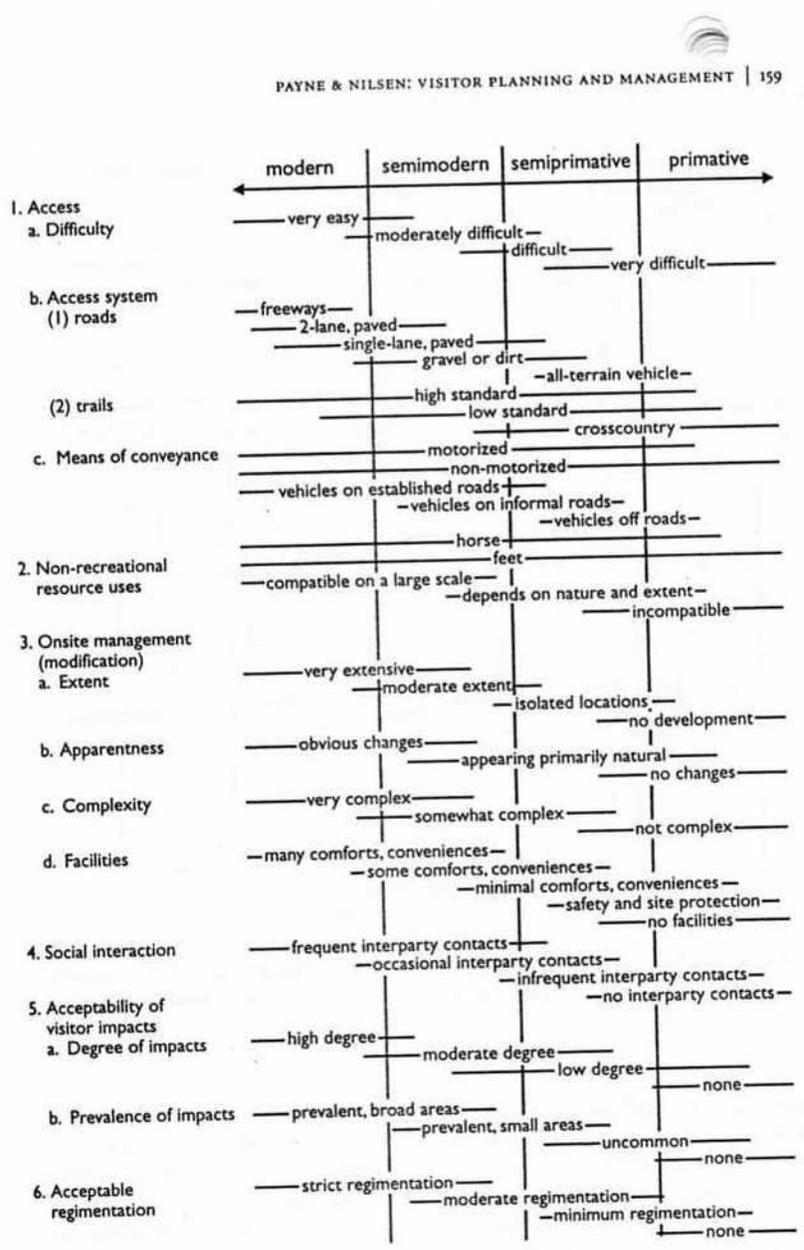


FIGURE 7.2 The Recreational Opportunity Spectrum (ROS) showing the relationship between the range of opportunity setting classes and management factors. Source: Clark and Stankey (1979).

Figure 7: Visitor Activity Management Process (VAMP) (Source: Payne & Nilsen, 2002)

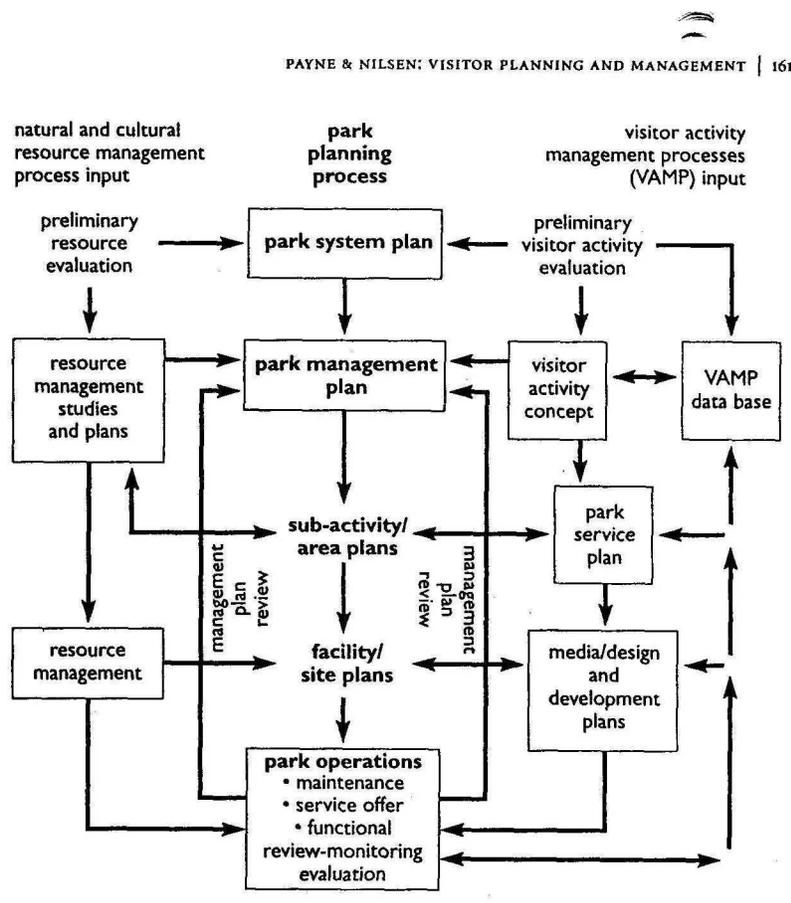


FIGURE 7.3 The national park planning process, showing the role of the Visitor Activity Management Process (VAMP). SOURCE: Parks Canada (1986).

The following three VMFs are regarded by Moore and Driver (2005) as impact management systems because of their use for preventing or reducing adverse physical (environmental) and social impacts. The Visitor Impact Management (VIM) framework visible in Figure 8 has a much stronger connection to ecological carrying capacity because of its concern for visitor impacts on the natural environment and is most appropriate when applied in site-specific situations (Payne & Nilsen, 2002). VIM relies heavily on the ability of managers to

specify ecological standards, monitor conditions, to identify problems when standards are violated and to restore desired park conditions.

Figure 8: Visitor Impact Management (VIM) (Source: Payne & Nilsen, 2002)

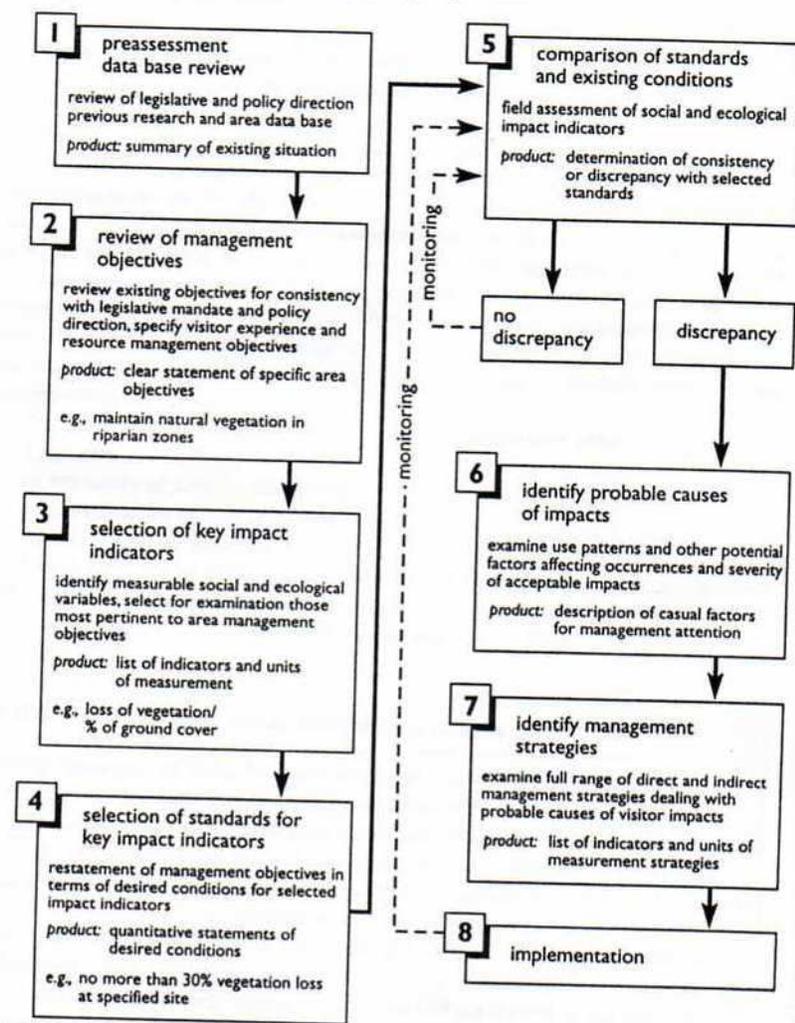


FIGURE 7.4 The Visitor Impact Management (VIM) process. SOURCE: Graefe (1990).

The Limits of Acceptable Change is similar to ROS in that it concerns itself with identifying recreational opportunities in a variety of settings. LAC visible in Figure 9 however also specifies indicators and standards of quality for resource and social conditions in each

setting. The inclusion of stakeholders is also incorporated when determining indicators and standards (Payne & Nilsen, 2002).

Figure 9: Limits of Acceptable Change (LAC) (Source: Payne & Nilsen, 2002)

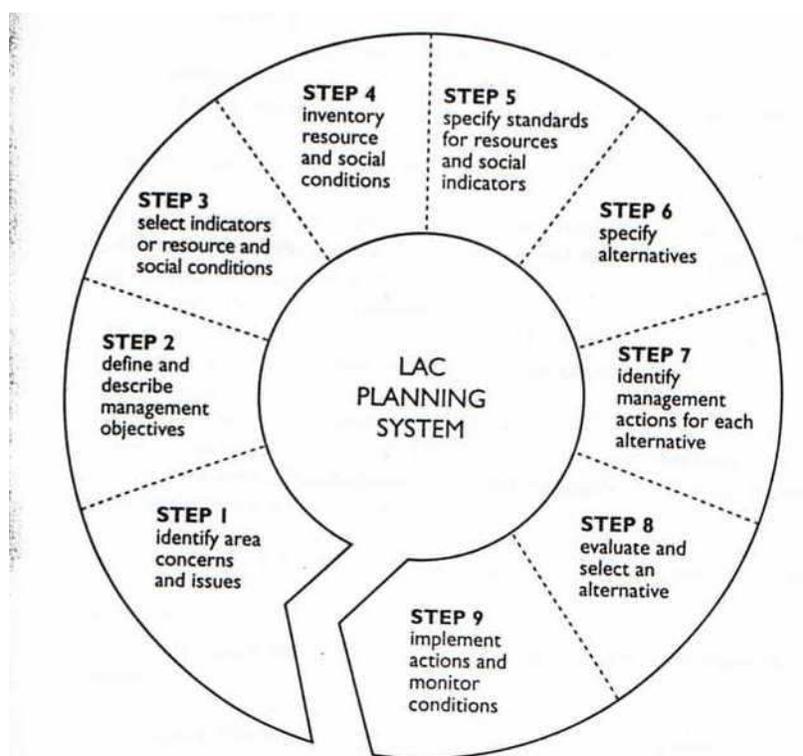


FIGURE 7.5 The Limits of Acceptable Change (LAC) planning system. SOURCE: Hendee et al. (1990).

Finally, the Visitor Experience and Resource Protection (VERP) framework is unique because it attempts to integrate both social and ecological issues of carrying capacity. Following similar processes as VIM and LAC, VERP is applicable at both the landscape and site levels (Payne & Nilsen, 2002). VIM's stronger ecological focus makes it perhaps less suitable for conflict management concerns; however LAC and VERP may be well served because of their inclusion of social conditions and specification of minimum standards of quality.

2.20 Management Prescriptions – Indirect and Direct

Recreation management has also been approached through the use of both indirect and direct approaches and management prescriptions (Manning, 1999; Moore & Driver, 2005; Payne & Nilsen, 2002). Manning (1999) highlights that typically indirect management approaches are favoured because they are less controlling, permitting a greater amount of visitor freedom, but are also viewed as being somewhat less effective. Similarly, direct approaches have been criticized for being too controlling, but more effective at reaching management objectives (Manning).

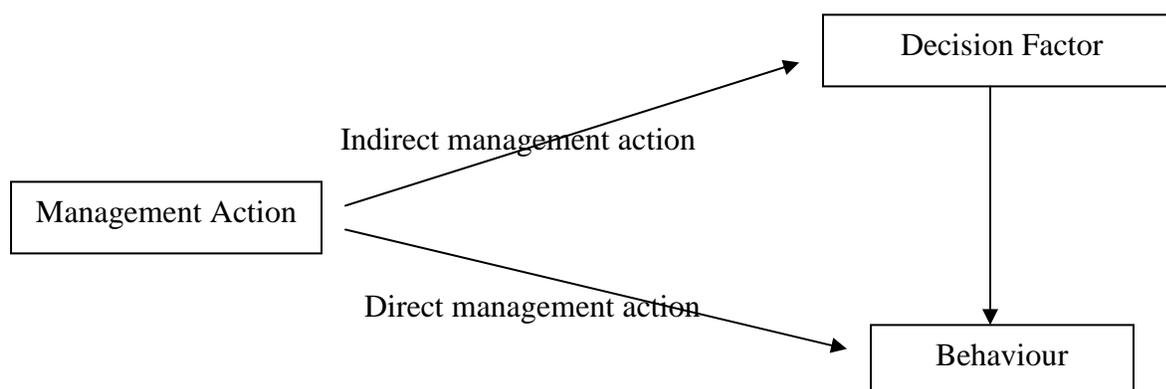
Indirect approaches emphasize influencing or modifying visitor behaviour and are typically recognized as four different types: physical setting modification, information and education, user involvement and fees/economic constraints. Modifying a physical setting can involve both providing or eliminating a particular setting characteristic to improve a visitor's experience. Setting modification may also be used to protect a particular landscape through the precise placement of trails and campsites away from vulnerable areas. Information and education programs are also very popular indirect approaches. A variety of sources can be utilized including, the internet, brochures, videos, maps, billboards, guidebooks, interpreters, personnel at agency offices, school programs, public meetings, and visitor centers. Appropriate and effective training of park staff and volunteers can also enhance the efficiency of message delivery (Manning, 1999). While educational programs are typically used to inform users, to improve understanding/awareness/appreciation, and to teach, their effectiveness is dependent upon five factors. These factors include source, message, channel, receiver, and situation (see Moore & Driver, 2005). Its application for outdoor recreation conflict management is limited and has typically been incorporated simply as a way to educate park visitors about ecologically

sensitive areas and even to inform visitors of other areas within the park that may have fewer users.

User involvement is another increasingly popular indirect management technique. User involvement may include the public, public agencies, other governmental organizations or any other stakeholder with a vested interest in management decisions. User involvement can serve to educate while also working to bring to light issues, which may not have been brought up otherwise (Moore & Driver, 2005). Fees and other economic constraints are also used as indirect management measures for limiting use. Limiting use, however, is often viewed as a management tactic of last resort and will be discussed below.

Direct measures, which typically emphasize the regulation of visitor behaviour, have been grouped into seven general types by Moore and Driver (2005). These general types are: rules/regulations, restrictions on group size, length of stay, allowable activities, time of use, location of use and level of use. These direct measures are purposefully broad because each can represent a wide assortment of management objectives. For example, allowable activities vary depending upon time of year, area of the park being considered, whether environmental quality has declined and whether an activity is motorized or non-motorized. Zoning is perhaps one of the most commonly utilized direct management approaches that can be used to zone certain recreation activities, even incompatible activities (Manning, 1999). Consequently, zoning can be quite effective in outdoor recreation conflict management application and has been a common component in many of the previously discussed VMFs, both spatially and temporally. Figure 10 below illustrates direct versus indirect approaches:

Figure 10: Direct Versus Indirect Management Approaches⁶



⁶ From Manning, R. E. (1999). *Studies in outdoor recreation : Search and research for satisfaction*, 2nd Ed. Corvallis, OR: Oregon State University Press.

2.21 Limiting Use

“The development of policies that limit access to recreational resources is one of the most controversial actions implemented for managing recreation on the public lands but one of the least understood” (McCool, 2001, p. 49). The study of use limitations (Freimund & Cole, 2001; Jubenville & Twight, 1993; Manning, 1999; McCool, 2001) has nonetheless produced a number of approaches for limiting use. Jubenville and Twight for example, have recognized recreational use zoning, time limitations, space limitations (i.e., use per unit area), quota limitations as well as temporary and permanent closures as possible means of limiting use. Also referred to as use rationing, Manning (1999) considers limiting use to be a practice of last resort “because it runs counter to the basic objective of providing public access to parks and recreation areas” (p. 258). There are times when use limits must be imposed and Manning has identified five use rationing management practices: reservations systems, lotteries, first-come first-served, pricing, and merit. A reservation system requires individuals to reserve a permit for access to a park, while a lottery, although requiring individuals to request a permit, does so on a random basis (Manning). First-come, first-served utilizes the waiting in line approach to receiving a permit; pricing requires

individuals to pay, which inevitably results in the exclusion of lower income individuals/families; and merit requires individuals to prove that they are deserving of a permit, perhaps through the demonstration of particular skills or knowledge (Manning). The decision to implement use limits has often been cited as a means of resolving conflict and crowding issues. ROS for example attempts to zone the wilderness landscape according to the desires and needs of different visitor groups. Unfortunately, as we have seen, an increased understanding of individual norms, values and attitudes has revealed the inability of use limitations to resolve conflicting situations. Use limitations may however be necessary if recreation use impacts are exceeding standards of quality and established minimum acceptable conditions. Before resorting to use limitations, managers should give full consideration all possible management options.

2.22 Other Management Options

With more and more emphasis being placed on the activity or social side of recreation management (i.e., crowding and conflict) as opposed to the ecological, research has seen an evolution of sorts from management based purely on the provision of activities to more complex understandings of visitor satisfaction and benefits. Moore and Driver (2005) describe activity-based management (ABM) as the most basic focusing on supply of opportunities, facilities and resources. Objectives and prescriptions were focused solely on activity provision. Experience-based management (EBM) is another managerial approach to outdoor recreation that builds upon ABM by recognizing the psychological experience inherent in recreation participation. EBM goes beyond ABM because it takes into consideration participant demands and expectations and requires the analysis and evaluation of visitor satisfaction. Management objectives are also much more elaborate specifying the types of recreation opportunities, when they will be offered, where, for whom as well as specifying use levels (Moore & Driver). As the name suggests,

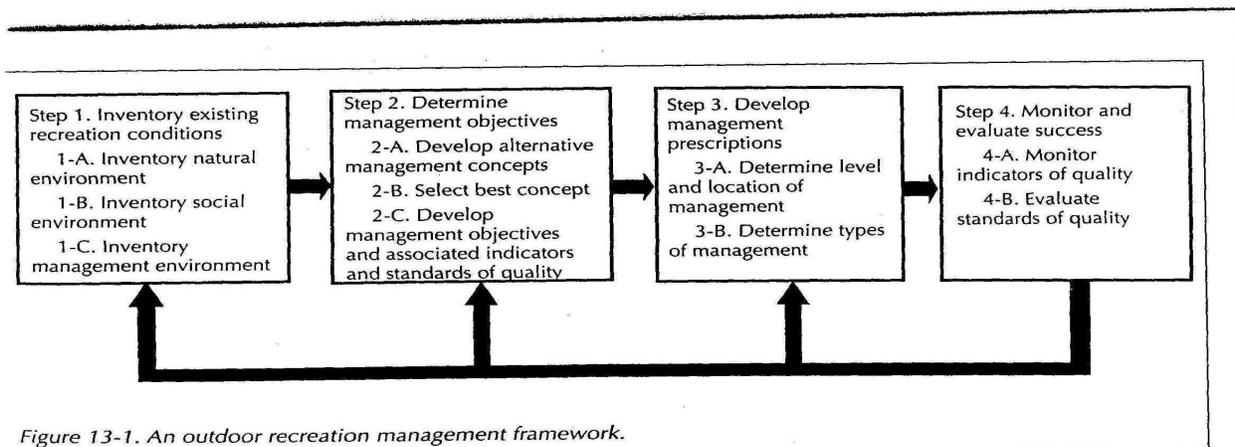
benefits-based management (BBM) is concerned with both immediate and long-term benefits of recreation participation to visitors. Concern is also for all types of benefits including psychological, psychophysiological and physiological. BBM utilizes extensive collaboration between “all affecting and affected stakeholders and associated providers on the types of benefit opportunities that should be provided” (Moore & Driver, p. 163). Research has also witnessed the introduction of rules, law enforcement, zoning, site design (Manning, 1999), adaptive management or simply learning by doing (Woodley, 2002), interpretation (Butler & Hvenegaard, 2002), eco-system based management (EBM) (Slocombe & Dearden, 2002), science-based approach, the meaningful measures system as well as GIS (Geographical Information Systems) (Slocombe & Dearden) as other possible management practices. However, as we have seen, choosing the most appropriate approach can prove extremely challenging for managers.

For outdoor recreation this is particularly true because, “there is too much diversity in outdoor recreation for standardized management approaches to be appropriate. What is needed is a logical and thoughtful process by which rational and defensible management approaches can be formulated and implemented” (Manning, 1999, p. 282). Regardless of which approach is implemented, it should be done so by design and not by default (Manning). Similarly, Moore and Driver (2005) suggested the use of the minimum tools, regulations and actions in order to achieve the desired objectives (i.e., objectives established by management personnel based on environmental and/or social conditions). In light of the abundance of management approaches and variables that must be taken into consideration when managing recreation environments, Manning has proposed a generalized outdoor recreation management framework (See Figure 11) that may serve as a guide to the formation of more site specific management practices.

Manning (1999) suggests four steps, with the first being an inventory of existing recreation conditions. This essential first step borrows from Manning's principle emphasizing the use of a three-fold framework of concerns. Under step one; managers would not only inventory the natural environment but the social as well as the management environment. Step two, determining management objectives begins with consideration of the information collected in step one and utilizes this information to formulate alternative management concepts reflective of the natural, social and management environments. The next evolution of step two requires the selection of the best management concept. This complex step must involve systematic evaluation of the developed alternatives. Consideration should be given to the feasibility of each concept as well as the effects the concepts will have on the entire outdoor recreation system, visitor use areas, natural resources, social values. The final element of step two is developing management specific objectives and their associated indicators and standards of quality. Manning (2001) defined indicators as "...measurable, manageable variables that define the quality of visitor experiences and natural/cultural resources" while standards of quality "define the minimum acceptable condition of indicator variables" (p. 93).

Step three of Manning's (1999) framework involves developing management prescriptions (i.e., direct or indirect techniques). These prescriptions will help management move from the current situation to their desired outcome. First managers must determine the level of management needed as well as the locations requiring attention. Finally, managers must determine the type of management needed; this will typically involve a combination of direct and indirect management practices. Step four involves both monitoring and evaluating indicators and standards of quality. If standards of quality are not being met, management will need to take action to re-evaluate their indicators and also their prescriptions.

Figure 11: Outdoor Recreation Management Framework⁶



⁶From Manning, R. E. (1999). *Studies in outdoor recreation: Search and research for satisfaction*, 2nd, Ed. Corvallis, OR: Oregon State University Press.

2.23 Management for the Future

Both the outdoor recreation experience as well as its management is considered to be highly complex multi-dimensional concepts. Similarly, outdoor recreation conflict has been established to include a variety of factors that have proven problematic to understand and consequently have made the development of conflict specific management practices difficult. The framework above presented by Manning (1999) offers one avenue to effective outdoor recreation conflict management because it stresses the production of management objectives, specific management prescriptions, and continued monitoring of social conditions. Future management efforts are only going to become increasingly complicated as society and outdoor recreation continue to change. Moore and Driver (2005) suggested a number of emerging issues, including: population changes, technological innovations, economic shifts, changes in transportation, concern for environmental effects on health, increased pressure on public recreational resources, changes in outdoor recreation participation, and general leisure changes.

The complexity of activities is also expected to change. Geocaching, night-vision activities, rockcrawling, and the use of wheeled dogsleds, off-road skateboards, and amphibious vehicles are only some of the possibilities (Moore & Driver). Management of these and other new challenges is going to require a tremendous amount of new knowledge. As the Social Sciences and Humanities Research Council of Canada (SSHRC) recognized, “We simply do not have clear and widely accepted answers to very basic sustainability questions, including many that lie in the social sciences realm” (2002, p. 2).

Unfortunately, even available information does not always become easily and readily available to resource managers (Wright, 2003). This is at least partially due to the basic nature of most academic research, which most often seeks to test theories or enhance knowledge (Manning). The result is that research problems are often defined too abstractly and reports are too technical to offer managers much hope of applying the knowledge (Manning). As a means of improving knowledge dissemination between researchers and resource managers, Wright discussed the *Diffusion of Innovation* theory. The theory recognizes that the delay in knowledge transfer can often be traced to the amount of time it takes new concepts to be learned, understood, and adopted by individuals and society. The exact amount of time can depend upon a concept’s complexity, compatibility with existing management needs or beliefs, trialability and observability (Wright). “Some innovations can be designed to be less complex, more compatible, easier to implement, or easier to observe...[and]...the research community needs to recognize these characteristics and spend more effort presenting them to the management community in a way that makes them easier to adopt” (Wright, p. 6). Communication and compromise between managers and researchers is needed (Manning) in order to narrow the gap currently present between scientific knowledge and management practices (Wright).

Haas (2001) developed similar recommendations for improving knowledge transfer and manager's ability to deal with outdoor recreation. He suggested the advancement and debating of alternative paradigms by all affected stakeholders (i.e., scientists, management, community); the shift to management on a larger geographic scale; the inclusion of other social science methods such as cognitive and behaviour mapping, participant diaries, focus groups, field and lab experiments; the defining of recreation experiences that help managers make rational and defensible decisions; and the implementation of inter-agency institutional leadership and coordination. Future improvements to outdoor recreation management appear just as complex as the management process itself. Success however will likely be a measure of the appreciation and understanding that can be demonstrated between researchers and managers. With respect to conflict, Spiers and Plummer (2005), "...urge park management and professionals to seek and provide new avenues of education concerning conflict and its management" (p. 350). Effective and appropriate knowledge management may be one way to provide new avenues and to help ensure continued understanding of outdoor recreation conflict and its management. National park management in Canada will be examined next, following a brief history of national parks in Canada.

2.24 History of Canada's National Parks

Having reflected upon outdoor recreation management practices, the following will serve to provide the reader with an overview of the history of Canada's national parks, including a description of the current parks system, the management approaches currently in effect as well as provide a glimpse into the future of Canada's national park management. The comprehensive chapter by McNamee (2002a) provides the basis for the following historical review of Canada's national parks.

The Canada national parks Act states that, “The national parks of Canada are hereby dedicated to the people of Canada for their benefit; education and enjoyment, subject to this act and the regulations, and the parks shall be maintained and made use of so as to leave them unimpaired for the enjoyment of future generations” (Parks Canada, 2006). With 41 national parks ranging in size from 9 sq.km to 45,000 sq.km, Canada boasts some of the most majestic natural scenery found anywhere in the world (Parks Canada, 2006). According to the Edmonton Journal (May, 2011), “In the 2009-2010 fiscal year, Parks Canada recorded 12,282,100 visits across the country, up slightly from 11,921,200 in the previous 12 months. But the overall trend is down, from 13,050,500 in 2006-2007, and from 13,141,800 in 2007-2008”.

In 1885 the federal government established a reserve around the Banff springs, however plans were in place, “to commence the construction of roads and bridges and other operations necessary to make of the reserve a creditable national park” (McNamee, 2002a, p. 24). In June of 1887, Parliament passed the Rocky Mountain Park Act, establishing a more expansive boundary of 673sq.km, later to be Banff National Park.

Between 1911 and 1957, the Canadian Government sought to expand their network of national parks to other regions across Canada, particularly in central and eastern Canada. This period also witnessed the rise in public advocacy for park values and the realization that a separate branch of government was needed to run the parks. 1911 saw the passing of the Dominion Forest Reserves and Parks Act. The act, “...created two new categories of conservation lands – forest reserves and dominion parks; it reduced the level of development permitted in the parks; and it placed the dominion parks under the administration of the world’s first national parks branch...” known now as the Parks Canada Agency (McNamee, 2002a, p. 29). The National Parks Association of Canada was formed in 1923, “to promote the

conservation of national parks for scientific, recreational and scenic purposes, and their protection from exploitation for commercial purposes” (McNamee, 2002a, p. 32).

Nineteen-thirty saw the creation of the National Parks Act. Its power prohibited the creation, elimination or altering of parks without Parliament approval. In the 1960’s concern grew for the environment and in 1979 revisions were made to the National Parks Act establishing the maintenance of ecological integrity as the parks primary function. Further revisions were made in 1995.

Under the Trudeau government in 1971 10 new national parks were created including the first in Quebec (i.e., La Maurice), and the first in northern Canada (i.e., Kluane, Nahanni and Auyuittuq). Between 1968 and 1984 an additional 13 national parks were created, protecting 64,000 square kilometers under the Trudeau government.

The Honourable Tom McMillan was responsible for a number a groundbreaking changes beginning in 1985. All in all, five national parks were created, including Ellesmere, Pacific Rim, Grasslands and Bruce Peninsula. McMillan’s work also resulted in a significant change to the National Parks Act, which stated the protection of natural resources and ecological integrity was to be the first priority; and in doing so threats (both internal and external) to the parks had to identified and eliminated.

In 1989 the Endangered Spaces Campaign was launched by the World Wildlife Fund of Canada and the Canadian Parks and Wilderness Society. In its ten year campaign between 1989 and 2000 an additional 66,700 sq.km were added to the parks system representing five new national parks. In total however, 1000 new protected areas were created helping to protected 132 and Canada’s 486 natural regions. The campaign was essential in helping to set aside wilderness areas, establishing that areas had to be permanently protected and prohibited from an industrial

uses. This period also saw the implementation of two landmark studies. The first was the Banff-Bow Valley study, which was appointed to provide direction for human use management (See Swinnerton, 2002). The second was the appointing of the Panel on the Ecological Integrity of Canada's National Parks, which was required to review the health of the entire park system. Results were to guide parks management into the 21st century.

2.25 Canada National Parks Management

Increased visitation however, may threaten parks' ability to maintain ecological integrity (Parks Canada, 2006). Ecological integrity according to Woodley (2002), "...forces the use of ecosystem science in combination with societal wishes to define ecosystem goals" (p. 99).

Management of Canada's national parks is quite complex and as a result Parks Canada details everything in management plans that are described as a "strategic guide for future management" and is the "primary public accountability document for each national park" (Parks Canada, 2006). As such, Parks Canada is committed to the adoption of environmentally sound practices through the implementation of an *Environmental Management System (EMS)* (Parks Canada, 2006). The EMS system "will provide a framework for evaluating, managing, improving and communicating environmental performance" (Parks Canada, 2006). Parks Canada goes on to say that EMS, "covers issue identification, the setting of performance measures and targets, the assignment of responsibilities and procedures, the tracking of progress towards targets, and the review of an organization's environmental management goals" (2006). In working to achieve environmental management goals and maintaining ecological integrity Parks Canada also makes use of active and adaptive management practices (Woodley, 2002). In a parks setting, "Active management is aimed at maintaining or restoring a process, species, or community" often through controversial means such as fire restoration (Woodley, p. 100). In a

way, adaptive management works in conjunction with active management because it is recognized as a process of learning by doing (Woodley). Management practices and policies are improved by learning from their outcomes. “At its best, adaptive management integrates learning into its planning processes, to continually improve management for the protection of ecological integrity” (Woodley, p. 99). Active management practices can be tested using an adaptive management framework because it allows for negative effects on ecological integrity to be identified, resulting in changes and adaptations to future management actions (Woodley).

With management in national parks being directed towards the maintenance of ecosystems, “[e]cosystem management provides a conceptual approach for the protection of park ecosystems” (Parks Canada, 2006). Ecosystems are incredibly complex and ecosystem management requires that a global view of the natural environment, in such a way that management is both long-term and large-scale (Parks Canada, 2006). Support is sought through public consultation along with understanding and collaboration between all parties whose actions impact upon ecological integrity (Parks Canada, 2006). As a specific example, “Parks Canada negotiates specific agreements with provincial and territorial planning and conservation agencies and also supports involvement in the UNESCO Man and the Biosphere Program as a means of integrating regional planning around parks” (2006). Guiding the implementation of ecosystem management in Parks Canada is a number of key characteristics (Table 2).

Table 2

Characteristics of Ecosystem Management

-
- Describe parts, systems, environments and their interactions
 - Be holistic, comprehensive, trans-disciplinary
 - Include people and their activities in the ecosystem
 - Describe system dynamics, e.g., with concepts of homeostasis, feedbacks, cause-and-effect relationships, self-organization, etc.
 - Define ecosystem naturally, i.e., bioregionally, instead of arbitrarily
 - Consider different levels/scales of system structure, process, and function
 - Recognize goals and take an active management orientation. Include actor-system dynamics and institutional factors in the analysis. Use an anticipatory, flexible, research and planning process. Enact implicit or explicit ethics of quality, well-being and integrity
 - Recognize systemic limits to action
 - Define and seek sustainability
-

Note: Source Slocombe & Dearden (2002).

Parks Canada also operates through the use of its Guiding Principles and Operational Policies.

Its guiding principles include those for, ecological and commemorative integrity, leadership and stewardship, new protected heritage areas, education and presentation, human-environment relationship, research and science, appropriate visitor activities, public involvement, collaboration and cooperation and accountability (Parks Canada, 2006). Each principle plays a role in Parks Canada's adoption of their human use management strategy. Defined as, "understanding, influencing and managing the relationships between people and protected heritage areas", Parks Canada has more recently recognized in their strategy the notion of "the

greater park ecosystem” (Kachi, 2003, p. 2). The management of visitor activities under the guiding principles stipulates the use of the Visitor Activities Management Process (VAMP) as well as a number of direct and indirect management strategies, such as zoning, rationing of use limits and education and information (Parks Canada, 2006). Management of Canada’s national parks system is incredibly complex and continually requires modification. It is for this reason that the Parks Canada Agency routinely makes changes to their management plans and assesses park situations in making decisions for future management actions.

2.26 Management for the Future

Recent State of the Protected Heritage Area Reports and Report of the Panel on the Ecological Integrity of Canada’s national parks has presented a number of issues requiring attention in future management actions. In fact, investigation has shown that Parks Canada lacks “basic data on the human dimensions of visitor use, impacts of visitor use, knowledge of visitors about ecological integrity, effectiveness of interpretations programs” (Wilkinson, 2003, p. 67). Such sentiments help emphasize the importance and relevance of my research into knowledge dissemination. Nilsen (2003) reported that the Review of Priorities for Social Science Within Parks Canada, the *Panel on the Ecological Integrity of Canada’s National Parks*, the *Parks Canada Action Plan*, and *First Priority Report* all noted that Parks Canada needed to re-invest in the social sciences. Nilsen (2003) also reported that the “2001/2002-2005-2006 Corporate Plan and the Parks Canada Performance Information Action Plan committed Parks Canada to develop a results framework for the measurement of the impacts of visitors” (p. 2). In fact, “In the short term, Parks Canada will focus on improved social science research and monitoring that is integrated with other science and decision-making” (Kachi, 2003, p. 3). Such attempts represent

a commitment by the Canadian Government to develop new avenues of communication. The effectiveness of such approaches, however, remains unknown.

The Panel on Ecological Integrity has also reported that Parks Canada needs a process for determining allowable activities (Wilkinson, 2003). The process needs to determine the allowability of current uses, the allowability of expanding current uses, and the allowability of new uses (Wilkinson, 2003). As such appropriateness should be measured against the type of use, level of use and location of use (Wilkinson, 2003). Wilkinson also reports that focus should turn towards demand management and as such, demand management should be addressed explicitly in each park's management plan. Demand management should also be incorporated into interpretation and outreach programs in order to better educate the public (Wilkinson, 2003).

In the 2005 Response of the Minister of the Environment to the Recommendations Made at the Third Minister's Round Table on Parks Canada, a number of future management recommendations are presented. The recommendation was put forth to build a culture of conservation through education, leadership and partnerships. The Minister's response reports that continued efforts will be made to collaborate with school educators and that Parks Canada will work with communities to promote initiatives that promote a culture of conservation. Research recommendations were also presented for a number of areas, including visitor experiences and the development of policies and programs. The recommendation was also presented for rewarding sustainability, stewardship and use of best practices. Although in its infancy, a Model Forest Program is being developed with a number of national parks to work with surrounding local landowners in an effort to learn and promote sustainable land practices. Each recommendation represents an expanded effort to again promote education and knowledge

sharing. Still, the current state of such programs and their relation to outdoor recreation conflict is unknown and requiring investigation.

In conclusion, the joint efforts by the Canadian Government and Parks Canada represent the first step towards more effectiveness parks management. The recommendations recognize the need for greater collaboration with stakeholders and most notably the inclusion of greater social science knowledge. However, direct improvements to outdoor recreation knowledge dissemination, in particular, outdoor recreation conflict are not known. Although, collaboration can promote greater communication and the integration of more social science knowledge can provide the means to answer the many unanswered questions related to conflict, much remains to be investigated. A broader discussion of the knowledge management concerns presented above, including those relevant to the field of leisure and recreation is presented in the next section.

2.27 Knowledge Management

The following represents an expanded discussion of knowledge management issues discussed above as a means of further illustrating the critical importance of accurate diffusion between researchers and users. A growing interest in knowledge management (KM) has been witnessed over the last number of years (Skyrme, 2003). A deeper investigation into why, reveals influences from increasing globalization and competition, organizational restructuring and downsizing, the realization that knowledge is economically valuable and the overall recognition that knowledge management as a strategic resource can lead to successful innovation through knowledge networking and the sharing of best practices (Skyrme). Unfortunately, the transfer or diffusion of knowledge from the producer to the user does not always occur and has been voiced as a commanding concern in a number of academic and non-academic fields. For example, knowledge dissemination (KD) has been studied relating to dairy farmers in Tanzania

(Bell, French, Karimuribo, Ogden, Bryan, Swai, Kambarage, & Fitzpatrick (2005), and has been considered to be of “crucial importance” for the planning of new product development (van der Bij, Song, & Weggeman, 2003, p. 163). In fact, at the firm/business level, individual commitment to the firm was found to have the greatest influence on the level of knowledge dissemination (van der Bij et al., 2003). The “gap between research and clinical practice has [also] been well documented in social work” (Herie & Martin, 2002, p. 85). Social workers in practice settings are regarded as having an ethical responsibility to make use of “empirically validated interventions”, although, unfortunately, most tend to ignore academic journals (Herie & Martin, 2002, p. 85). The tourism field has also written extensively on the topic (See Xiao, 2006 and Xiao & Smith, in press) and has recognized that despite the availability of an abundance of tourism knowledge, it does not appear to be being used to its fullest potential (Xiao & Smith). In the field of recreation and leisure studies, the relevance of leisure theories and therefore the transfer from research knowledge to practice has been pondered and debated (Hemingway & Parr, 2000; Shaw, 2000). Concerns have risen regarding the insularity of leisure research (Samdahl & Kelly, 1999), inhibiting its applicability in real-world circumstances outside the confines of the field. Specifically, Shaw said,

...it is evident that the starting point of the analysis used is almost always leisure: that is, the focus is on leisure meanings, activities, constraints, satisfactions, or benefits. This attention to leisure first, and other issues second, may be limiting our vision and the potential application, breadth and social relevance of our research (2000, p. 149).

Reid and Mair (2005) offered a ‘state of the art’ evaluation of leisure research using an analytical framework to compare the purpose and direction of published leisure research. Ninety-eight (30.8%) of the 318 articles reviewed engaged issues of social change and confronted the nature of social research “by describing some opportunity (or need) to use the results for more socially-aware or progressive practice” (p.4). A larger number (148) of publications, “either left

unchallenged or actively reinforced the status quo and did not question relations of power, control or access to leisure services or research” (p. 4). The authors finished by saying, “This evaluation should push us all to engage more directly in questions of leisure research and practice and their role as a mechanism for social change” (p.4).

The European Union (EU) has re-investigated its innovation policy because of what they like to call, the ‘European knowledge paradox’ that recognizes the low degree of knowledge dissemination and high quality of research (Enders, 2005). As a means of working to improve knowledge dissemination recent studies have examined the use of e-learning (Bonito, Tribolet, Jorge, & Chaoui, 2005) and digital knowledge dissemination (Akin, 2005). The Social Sciences and Humanities Research Council of Canada (SSHRC, 2002) has also recently identified the need for “creative and aggressive approaches to outreach and knowledge transfer...to encourage porous boundaries between academic and other constituencies...” as a means of strengthening their *Environment and Sustainability Research Program* (p. 4). Even more recently SSHRC (2005) proposed the addition of two new values to the council’s mandate: ‘interactive engagement’ and ‘maximum knowledge impact’; with the hopes of fostering stronger connections between and among researchers and the users of research. Problems however, arise with knowledge dissemination because “...although broad management audiences are exposed to scientific information through a variety of avenues, awareness of new approaches and techniques does not necessarily transfer to active use of new management practices” (Wright, 2003, p. 2). A wide variety of solutions have been proposed, including: joint publications by researchers and managers and involvement of managers in the peer review process (Melzer & Ellis, 2009). Chan, Oerlemans, and Pretorius (2009) provided the example of a science park as a way of formalizing the operational links between those conducting research and those needing to use it.

According to the authors, science parks have two primary components: “an organizational program of activities for technology transfer [and] a partnership between academic institutions, government and the private sector” (2009, p. 55). These partnerships were referred to as ties, and the more ties between organizations/institutions, the greater the knowledge transfer and innovative performance (see Chan et al., 2009 for additional discussion of science parks, including challenges and benefits).

Other concerns surround the different types of knowledge. Over the years, knowledge has been categorized as “facts, attitudes, opinions, issues, values, theories, reasons, processes, policies, priorities, rules, cases, approaches, tools, relationships, risks and probabilities” emphasizing that its use and management is often guided by perceptions (Xiao & Smith, in press, p. 5). The academic literature on KM conceptualizes knowledge in a variety of different ways. The most common describe knowledge as either explicit or tacit (also referred to as implicit or experimental); (Corrall, 1999; Laszlo & Laszlo, 2002; Xiao & Smith, in press). Explicit knowledge is more easily transferred because it can be articulated and communicated more clearly through formal systematic languages and can be put down in written documents (Laszlo & Laszlo). The difficulty with tacit knowledge is that it is embodied in personal experiences and demonstrated through actions (Laszlo & Laszlo). Knowledge has also been characterized as human, social and structured knowledge. Human knowledge reflects cognitively what people know and is considered both explicit and tacit (Laszlo & Laszlo). Social knowledge is largely tacit and is the result of working and learning among groups and individuals. Structured knowledge is explicit and “is embedded in the processes and infrastructure of a social system...it exists independently of human knowers and represents an organizational resource” (Laszlo & Laszlo, p. 406). A review of the literature also reveals that knowledge has been conceptualized

as both practical and empirical and has been further described as knowledge of salvation, cultural knowledge and knowledge of effects (See Xiao, 2006).

Any discussion of knowledge also requires a review of *knowledge use*, or *utilization*, which can be defined as “whether and to what degree sources of evidence are applied to management decisions or policymaking at conceptual, instrumental, or political levels” (Xiao & Smith, in press). Essentially representing an outcome and process, utilization reflects the information processing, the social relationships that influence knowledge use and interpretation, the abilities to select appropriate knowledge and the actions taken to put research into practice (Xiao & Smith).

One thing is evident and that is that not all knowledge is used nor used in the same way. The effectiveness of use has been evaluated based upon its usability, usefulness and credibility (Xiao & Smith, in press). If a body of knowledge has the probability to be used, then it is considered to have a certain level of usability. Usefulness more accurately reflects the ability of that particular body of knowledge to be found effect as it relates to an individuals or organizations goals. Credibility reflects the perception of quality and therefore whether the information is believed or trusted (Xiao & Smith). It is possible however for knowledge to lose and (re) gain usefulness over time (Xiao & Smith). Such a knowledge lifecycle suggests that usability and usefulness can be understood temporally and spatially. Simplistically, knowledge is discovered, captured, utilized, and retired (Siemieniuk & Sinclair, 2004). The knowledge lifecycle is also influenced by the organizational learning cycle (See Xiao & Smith).

Knowledge use theories provide another means to more deeply understanding the processes of use, user roles and use characteristics (Xiao & Smith, in press). Developed in the 1970s and 1980s, the two-community theory describes that low use of social sciences research

by practitioners. The fundamental idea behind this theory is that producers (researchers) and users (practitioners) exist in two culturally different worlds. To use a metaphor, the overcoming of bridges, gaps, and vehicles is paramount in this theory. A systems theory on the other hand describes producers and users of knowledge as two functionally different social systems, where the concern surrounds how interaction and knowledge transfer can take place. Hemingway and Parr (2000) believe that “Leisure research and leisure practice are independent professional paradigms between which a relation must be constructed” in order to ensure interaction and the transfer of knowledge (p. 139). Knowledge-driven and problem-solving theories of knowledge use have also been presented. The former, representing a linear process suggests that ideas from basic research will eventually advance applications in applied research, leading to the diffusion of innovations. The latter, begins with problem identification, which in turn is presented to the researcher whose task is to propose researchable questions and find solutions (Xiao & Smith). Bipolar or tripolar theories cast knowledge utilization as a process of interactions. Simpler models view the interaction as one way, from producer to user, while more sophisticated representations consider interactions moving in multiple directions between multiple users and producers (Xiao & Smith).

Another, highly studied model of knowledge use is the Diffusion of Innovations theory (Rogers, 2003; Wright, 2003). This theory recognizes the time element involved in the adoption of new knowledge and concepts into actual practices. The “time lag” between the introduction of an innovation (or idea, practice) and its complete integration into practice varies because of the multi-stage adoption process. Diffusion of an innovation occurs once the innovation has begun to be adopted by a variety of managers. Researchers must also realize that different innovations take different amounts of time to be adopted because of differences in complexity

and applicability to current management situations. In order to speed up the process of adoption, Wright says “the research community needs to recognize these characteristics and spend more effort presenting them to the management community in a way that makes them easier to adopt” (p. 6).

The problems associated with achieving consistent, accurate and effective knowledge dissemination reflect the presence of a number of barriers to utilization. The interpretation of the meaning and the quality and usefulness of knowledge can inhibit utilization (Xiao & Smith, in press). Barriers in fact, can occur at any stage and may include a lack of awareness, lack of interest, lack of necessary information to understand the knowledge and may even occur during implementation (Wright, 2003). The characteristics of the above barriers are further echoed by Siemieniuk and Sinclair (2004) who identified four ‘knowledge inhibiting factors’. They include (1) a limited problem solving capability; (2) sterile implementation and/or inability to innovate; (3) limited experimentation in operations; and (4) the screening out of new knowledge. The existence of cross-cultural differences between producers and users of knowledge may also affect utilization and dissemination efforts (Xiao & Smith, in press).

Knowledge use also requires the implementation of effective and appropriate knowledge management (KM). KM according to Skyrme (2003) “is the explicit and systematic management of vital knowledge and its associated processes of creating, gathering, organizing, diffusion, use and exploitation. It requires turning personal knowledge into corporate knowledge that can be widely shared throughout an organization and appropriately applied” (p. 2). KM reflects an attempt to enhance the use of knowledge that as a main objective will improve organizational performance (Corrall, 1999). A primary focus is on turning tacit knowledge into explicit knowledge through, “the application of peoples’ competencies, skills, talents, thoughts,

ideas, intuitions, commitments, motivations, and imaginations” (Broadbent, 1999, p. 24) and through the organizing access to networked information resources (Corrall). Despite this, KM is considered an emerging discipline and practice (Xiao, 2006). Because of recent KM research, an agreed-upon definition or understanding has yet to be reached (Xiao). Xiao, from his review of the *Journal of Knowledge Management* found varying conceptualizations of the term. From a tourism perspective Xiao defines KM as “taken to mean any planned applications of knowledge by tourism agencies, organizations, destinations and businesses to accomplish their goals and objectives” (p. 146).

2.28 Knowledge Dissemination in Tourism and Leisure

A review of the tourism and leisure literature reveals multi-interdisciplinary scholarship (Madrigal, 1999; Xiao, 2006). Jafari (2001) outlined an evolutionary perspective of thinking in tourism arguing that the knowledge-based platform, which emerged in the latter part of the 20th century had as its main goal the “formation of a scientific body of knowledge on tourism” (p. 32). Despite this, information and knowledge use in leisure, recreation and tourism has been discouraging (Xiao, 2006). In fact, research knowledge from academic journals receives infrequent use by practitioners (Xiao) and sadly it is often intuition and personal experience that are utilized for management and policy decisions (Xiao & Smith, in press). In Madrigal’s (1999) review of the missions of the journal of *Leisure Sciences (LS)* and the *Journal of Leisure Research (JLR)* he found that each was intended for use by academics and practitioners. Additionally, the Journal of Park and Recreation Administration was founded to enhance the practice of park administration. Revelations such as these have spurred many leisure researchers to question the relevance or irrelevance of their research (Kelly, 2000; Shaw, 2000). Samdahl and Kelly (1999) found from an investigation into the distribution of sources cited in LS and JLR

as well as the extent to which articles from LS and JLR were cited in outside academic publications, that leisure research appears to be intellectually isolated from bodies of literature such as social psychology and environmental studies.

The isolation of leisure research and thus its limited dissemination to practitioners is made even clearer from the findings by Jordan and Roland (1999) who compared the differences between academics and practitioners in frequency of reading research. An amazing 65% to 96% of practitioners said that they never read the major research journals and only 5.6% of all respondents said they were interested in new research findings. A lack of awareness may be to blame, although the insularity of leisure research has also been questioned (Samdahl & Kelly, 1999). Some leisure journals such as the *Journal of Park and Recreation Administration* (JPRA) have made efforts to improve the availability and applicability of its published research. The journal was established to “bridge the gap between research and practice for administrators, educators, consultants, and researchers” (JPRA, online). The journal further claims that publications will (1) move theoretical management concepts forward in the field of park and recreation administration and (2) provide clear implications of theory and research for problem solving and action in park and recreation organizations. Despite these positive efforts, there is no guarantee that researchers and practitioners will read or make use of the published research.

Leisure research needs to strive to move beyond narrow focused leisure questions and progress to addressing issues on a larger societal scale. The recreation conflict research can be considered in a similar vein, as being very abstract and detached from the broader and more pressing issues in society. Attempting to define conflict in terms of variables such as stress, goal interference and norms violations does little to immediately help resource managers who are attempting to contend with conflict and crowding issues in their parks on a daily basis. Spiers

and Plummer (2005) and Xiao (2006) both found that intuition and personal experience were relied upon most frequently when making management and policy decisions related to outdoor recreation conflict management in Ontario's Provincial Parks. The previous review of the outdoor recreation conflict management tools revealed the benefits to using indicators and also visitor management frameworks (i.e., ROS, VIM, etc). Surprisingly, 83% of Ontario Provincial Park managers reported not using indicators to manage conflict (Spiers & Plummer). Equally as surprising was the fact that 66% indicated not using preformed visitor management frameworks (Spiers & Plummer). Such findings should raise concerns regarding the insularity and usefulness of recreation conflict research as well as the awareness that park managers possess regarding conflict understanding and available management tools. Spiers and Plummer remarked that

“managers in Ontario Provincial Parks contend with conflict in the absence of objective or systematically collected information; from a relatively traditional perspective (e.g., conflict as goal interference or incompatibility of activities); and with, a limited strategic understanding of conflict resolution strategies, procedures, and/or policies” (2005, p. 343)

The authors concluded by urging both park management and professionals to develop and provide new means for the sharing of knowledge concerning conflict and its management. It may also explain why research from environmental studies, management and carrying capacity literature has seen greater transfer into direct application when compared to leisure research.

Another explanation comes from Heinen (2010):

I have also found a frequent lack of appreciation or understanding on the part of many of my colleagues in the natural sciences – as well as many natural resource agency personnel who are trained mostly in the natural sciences – about the large role that the social sciences could and should play in PAs [protected areas] research and management (p. 152).

Heinen further acknowledges that the natural sciences still hold dominance in PA management and that sadly, social sciences only becomes important after the fact.

Finally, according to Shaw (2000), it may be a matter of relevance. To improve leisure research, its recognition and transferability to real-world situations as a means of promoting positive social change, Shaw says “that relevance means directing our attention outwards – towards pressing social needs, issues and concerns – rather than always looking inwards with a narrow focus on leisure” (2000, p. 150). As Laszlo and Laszlo (2002) pointed out, “Nowadays, processes related to knowledge creation, learning, and innovation have a social impact just as significant as economic initiatives” (p. 400). It must be conveyed to producers and users of knowledge that “knowledge sharing is power” (Skyrme, 2003, p. 4). Pathways of communication, understanding and appreciation must be opened between producers and users if academic research is to find its place with practitioners. Conversely, practice must also inform scholarly research.

With this in mind, the following chapter details the methodological procedures being utilized for expanding the current conceptualization of outdoor recreation conflict, while also outlining the methods being employed to more fully understand the knowledge dissemination of outdoor recreation conflict research.

CHAPTER THREE

Research Methods

3.1 Introduction

Manning (1999) noted that, “Good information is needed for recreation management” (p. 291). Here, good is taken to more appropriately mean relevant. Unfortunately, much of the information on which Parks Canada managers rely comes directly from research; particularly research that by virtue of its design and discipline of focus may not meet pressing managerial needs or requirements. Therefore, these managers more often than not are required to manage complex social science issues such as outdoor recreation conflict with information unfamiliar (i.e., discipline, methodology, etc) to them that may result in misunderstanding. Conversely, research may lack relevancy and attempts to adopt the research may not even be attempted. Despite the fact that management audiences are exposed to scientific information through publications and presentations, “awareness of new approaches and techniques does not necessarily transfer to active use of new management practices” (Wright, 2003, p. 2). One solution, according to Wright, for making ecosystem management more effective is to narrow the gap between scientific knowledge and existing management practices. Findings from research are often difficult for managers to directly apply because “research problems are defined too narrowly and abstractly to have much application, and that research reports are overly technical and obtuse” (Manning, p. 293). Wright highlights that new management approaches and innovations that are easier to try and to implement are more likely to see actual application in a resource management context. In reference to many of the current, complex innovations, Wright says that they, “can be designed to be less complex, more compatible, easier to implement, or easier to observe” (2003, p. 6). Ease and a lack of complexity should not come

at the expense of good research. Results from the present study highlight several areas where the researcher-practice gap might be narrowed without suggesting that original research possess the inherent quality of “easiness”. While managers may prefer research from an applied approach because it is more likely to supply immediate useable knowledge, even such knowledge must be “considered within a theoretical framework”, which can be inherently complex and/or abstract (Manning, 1999, p. 294).

The problem for social science issues such as recreation conflict is compounded because typical science-based management invariably focuses upon environmental impacts and maintaining ecological integrity. As a result pressing social issues such as user conflict, where concern for human-human interaction is paramount, receives much less attention. This scenario is partially to blame on the recognition by park managers that environmental impacts appear to be most pervasive (Manning, 1999). Thankfully, both Parks Canada and SSHRC through some of their more recent actions have recognized the increased urgency for social science integration into natural resource management. While recommendations abound about how to improve knowledge transfer between researchers and managers and how to increase the incorporation of the social sciences into resource management, the level of conflict understanding and social science integration remains relatively unknown throughout Canada’s national parks. As researchers and natural resource managers, we simply do not know the current state of social science and more precisely conflict knowledge dissemination. As researchers we do not know if and how Parks Canada managers make use of new information. If knowledge is not being used, why not? We do not know if academically accepted knowledge related to conflict has been accepted and adopted by managers. The current understanding of conflict has also not been accepted and more research has been recommended (Schneider, 2000a). It thus becomes critical

to develop a clear understanding of conflict when attempting to assess conflict knowledge dissemination. These and other similar questions remain uninvestigated and consequently unanswered. Finding answers to these questions can help ensure greater co-operation between researchers and managers and that future research related to conflict can be approached with communication and compromise to ensure that findings benefit both researchers and managers.

In light of these unanswered questions and the need to better understand recreation conflict and its management in the Parks Canada Agency, two studies were proposed for Jasper National Park (JNP) that were guided by two primary research questions.

- (1) What is outdoor recreation conflict?
- (2) How is the new outdoor recreation conflict conceptualization usable and applicable to managers in Jasper National Park?

Understanding the various methodological approaches available to answer the above research questions is explained next.

3.2 Purpose of Social Research

According to Babbie (1992) social research serves three purposes: exploration, description and explanation. Exploration research involves the study or examination of a subject that is relatively new and/or unstudied (Babbie). Exploratory research has typically served three purposes: (1) “to satisfy the researcher’s curiosity and desire for better understanding, (2) to test the feasibility of undertaking a more careful study, and (3) to develop the methods to be employed in a more careful study” (Babbie, p. 90). Babbie also highlighted that exploratory research is essential when breaking new ground or yielding new insights into a specific topic or area of research. Descriptive research according to Babbie is used to describe situations and events for which the researcher(s) observe and then describe. Explanatory research on the other hand attempts to provide an explanation for “why” something has occurred.

Research has also been recognized differently depending on its purpose. For example, Patton (2002) recognized five different types of research: basic, applied, summative evaluation, formative evaluation, and action. Basic is perhaps the most common throughout academic institutions, where the fundamental goal is the contribution to knowledge and existing theory. Neuman (2000) says that, “Basic research is the source of most new scientific ideas and ways of thinking about the world” (p. 23). By contrast, applied researchers, “want to apply and tailor knowledge [usually derived from basic research] to address a specific practical issue” (Neuman, 2000, p. 23). As Patton (2002) said, “The purpose of applied research is to contribute knowledge that will help people understand the nature of a problem” (p. 217). According to these (basic and applied) definitions, my research is basic because it contributes new information and new theory to existing theories of outdoor recreation conflict, but also applied because findings provide a better understanding of the nature of the problem that is recreation conflict and use of research knowledge. Additionally, guided by findings from this and other basic research, this research also addresses the much broader societal concerns of communication, collaboration, education, and knowledge sharing.

Therefore deciding upon a research approach relies heavily on the overall intent of the research itself. Choosing a particular research design and methods can be even more challenging. “There is no recipe or formula in making methods decisions” and consequently, researchers need to understand all research options (Patton, 2002, p. 12). The following sections (i.e., 3.3-3.6) provide the reader with important background information related to available methodological approaches. Sections 3.7 and 3.8 discuss specifically the methodological approaches employed for this research study.

3.3 Qualitative Research Design: Important Considerations

If a concept has received limited research attention and a greater understanding of the phenomenon is warranted, a qualitative approach is most often selected (Creswell, 2003). This is often the case because the exploratory nature of qualitative research makes it ideal when important variables related to a phenomenon are unknown. Creswell notes that qualitative research is typically based on a constructivist perspective (i.e., multiple meanings of individual experiences) or an advocacy/participatory perspective (i.e., political, issue-oriented, collaborative or change-oriented).

Patton (2002) recognized a number of different kinds of qualitative data available to the researcher. The interview, which makes use of open-ended questions to retrieve information related to "...people's experiences, perceptions, opinions, feelings, and knowledge" is one of the most common approaches (p. 4). Interviewing requires a tremendous amount of skill and researchers must be certain to include a variety of different types of questions (i.e., feeling questions, knowledge questions, sensory questions, background questions etc). Interviews may also be structured several ways. The three most common ways include, the informal conversational interview, the general interview guide and standardized interview guide approach. These approaches are not necessarily independent. For example, Patton introduced the idea of combining approaches. A guide approach and standardized approach could be used to specify certain questions that must be asked, perhaps even in a particular order, while also allowing other questions or topics to be explored less formally by the interviewer. "This combined strategy offers the interviewer flexibility in probing and in determining when it is appropriate to explore certain subjects in greater depth, or even to pose questions about new areas of inquiry that were not originally anticipated" (Patton, p. 347).

In discussing the collection of qualitative data, Patton (2002) makes note of four mandates as originally suggested by sociologist John Lofland:

- (1) the qualitative methodologist must get close enough to the people and situation being studied to personally understand in depth the details of what goes on, (2) the qualitative methodologist must aim at capturing what actually takes place and what people actually say: the perceived facts, (3) qualitative data must include a great deal of pure description of people, activities, interactions, and settings, and, (4) qualitative data must include direct quotations from people, both what they speak and what they write down (p. 28)

Similarly, Patton (2002) highlights personal experience and engagement, empathic neutrality and mindfulness, and dynamic systems as three important data collection and fieldwork strategies.

Personal experience and engagement reflects the above notion of getting close to the people and situation, meanwhile the researchers own personal experiences are also important to

understanding the phenomenon under investigation. Patton refers to this as reflexivity or self-awareness. “Being reflexive involves self-questioning and self-understanding... To be reflexive, then, is to undertake an ongoing examination of *what I know* and *how I know it*” (Patton, p. 64).

Empathic neutrality essentially means interviewing without judgment, while mindfulness in observation implies being fully present. Finally, dynamic systems implies an attention to the changing processes around you and being attentive to the situation and system dynamics (Patton).

“Qualitative data analysis transforms data into findings” (Patton, 2002, p. 432). Because there exist’s no formula for qualitative data analysis, the challenge is in determining the significance of the raw data. It is often for this reason that data analysis is recommended to begin throughout the course of fieldwork. The emergent nature of qualitative research suggests that researchers should become accustomed to taking field notes and being aware of possible patterns or themes that emerge as data is collected (Patton). Arguably however, concentrated

data analysis begins with content analysis, which by definition is any form of data reduction or “sense-making effort” that the researcher uses to identify meanings in the data (Patton, p. 453). Analysis can further involve either an inductive or deductive approach. Inductive allows findings to emerge from the data as the researcher discovers patterns and themes. In contrast, deductive analysis is guided by an existing framework. It is also possible for both inductive and deductive approaches to be utilized throughout analysis. Of particular importance to qualitative data analysis is the sensitizing concept. The *sensitizing concept* provides direction or frame of reference for the researcher during data collection and analysis.

Qualitative research is also particularly complex because of its use of strategies of inquiry, also known as *theoretical frameworks*: ethnography (Patton, 2002), phenomenology (Titchen & Hobson, 2005), grounded theory (Corbin & Holt, 2005), autoethnography, constructivism/constructionism, heuristic, hermeneutics (Patton, 2002), ethnomethodology, case study (Stark & Torrance, 2005), queer/lesbian/gay theory (Filax, Sumara, Davis & Shogan, 2005), and narrative (Patton, 2002).

Despite the apparent importance of qualitative research being guided by a theoretical framework, Patton (2002) feels that it is not always necessary. Pragmatically, not all research questions are, or need to be theory based. Patton says, that “it is not necessary, in my opinion, to swear vows of allegiance to any single epistemological perspective to use qualitative methods” (2002, p. 136).

3.4 *Quantitative Research Design: Important Considerations*

Quantitative research has received a great deal of attention over the years (Babbie, 1992; Creswell, 2003; Fowler, 2002; Lewin, 2005; Miller, 1991; Neuman, 2000). A quantitative approach is best, according to Creswell (2003), when the researcher(s) is/are attempting to test a

theory or explanation. As such, researchers may rely on either experiments or surveys as a strategy for conducting their research (Creswell, 2003). Surveys involve the use of a standardized questionnaire or structured interview, typically with the intent to generalize findings to a specific population group, although survey research is not always meant to be generalizable (Creswell, 2003).

In discussing survey research design, Babbie (1992) highlighted two primary types of survey research. These included self-administered questionnaires and interview surveys. Self-administered questionnaires include those conducted by an interviewer in face-to-face encounters, by telephone, or through mail delivery and return, while interview surveys are those where the interviewer instead of having respondents record their own answers will ask questions orally and record respondents' answers. Babbie highlighted that while self-administered questionnaires are generally cheaper, quick to complete, require typically very few researchers and are useful for studying sensitive issues and ensuring anonymity, they are potentially weak on validity. The artificiality of the survey format according to Babbie is what reduces a questionnaires validity. If, for example participants are asked to provide their insights on a particular issue, Babbie noted that very rarely do their opinions, "take the form of strongly agreeing, agreeing, disagreeing, or strongly disagreeing" (p. 279). As a result participants' responses to such questions must be considered as approximate indicators given the initial aim and focus of the questions. Ultimately, Babbie noted that in weighing the advantages and disadvantages, the final selection of a survey method is done according to research needs and resources.

3.5 Triangulation or Mixed-Methods Design

Triangulation or mixing of research methods is another approach often taken by researchers. Early triangulation of methods was done because it was realized that all methods have limitations (Creswell, 2003), and that use of one particular method made the research vulnerable to the limitations inherent in the chosen method (Patton, 2002). As such, triangulation is useful because, “the results from one method can help develop or inform the other method...Alternatively, one method can be nested within another method to provide insight into different levels or units of analysis” (Creswell, p. 16). Similarly, Patton noted that qualitative data (i.e., descriptions) can be transformed into quantitative scales to be later used for statistical analysis. Greene, Kreider and Mayer (2005) have established four purposes for mixing methods for improved understanding. Essentially, mixing methods helps researchers understand more defensibly (i.e., increased validity and credibility), understand more comprehensively, understand more insightfully (i.e., fresh perspectives), and understand with greater value consciousness.

There are also four types of triangulation or methods mixing. These include data triangulation, or the use of a variety of data sources, investigator triangulation, or the use of multiple researchers or even evaluators (i.e., having subjects verify the accuracy of information collected), theory triangulation, which uses several perspectives for data analysis, and methodological triangulation, or the use of many different methods (Patton, 2002). Implementing different triangulation approaches is however, more difficult and oftentimes more costly (Patton). Important considerations surround whether the different methods are going to be considered equally important, or if one approach is going to be dominant (Greene et al., 2005). Researchers must also consider the order in which the different methods are going to be

implemented (Greene et al.). Essentially, methods can be implemented using sequential procedures, concurrent procedures, or transformative procedures (Creswell, 2003). In sequential for example, a quantitative method may be used to gain breadth of insight into a phenomenon, followed later by the use of a qualitative questionnaire to provide more depth of understanding. Similarly, a qualitative approach could also be implemented first, followed by quantitative. In a concurrent approach the researcher will collect qualitative and quantitative data simultaneously, in an effort to converge the data to provide a more comprehensive analysis. Transformative procedures are guided by an overarching theoretical perspective that contains both qualitative and quantitative methods that could be implemented sequentially or concurrently (Creswell).

Overall triangulation of research methods can be extremely beneficial. Although triangulation can help overcome some limitations associated with the research endeavor, triangulation can also be limiting because of its associated complexity and cost. All of that considered, “Triangulation is ideal” (Patton, 2002, p. 247).

3.6 Sampling: Important Considerations

Appropriate and effective sampling is critical to the success of any study. Researchers must consider the sampling strategy, the sample frame as well as the sample size. It is also important to realize that quantitative and qualitative researchers approach sampling decisions quite differently (Neuman, 2000). Quantitative researchers use sampling strategies to ensure accuracy and representativeness, relying on probabilities, whereas qualitative researchers are more concerned with choosing smaller samples, whose investigation can bring deeper understanding.

Probability sampling typically includes simple random sampling, systematic sampling, stratified sampling, cluster sampling and random digit-dialing (Neuman, 2000). In order to

further understand sampling, one must understand the sampling frame. In its most simplistic terms, the sample frame includes all those individuals who have the chance of being selected (Fowler, 2002). In a simple random sample, the researcher would have access to the complete list of individuals and would therefore be able to mathematically select randomly a representative group of individuals. In essence, probability sampling allows for the selection of a representative sample and also allows for an estimate of the amount of sampling error in a given sample (Babbie, 1992).

Non-probability sampling, most often utilized by qualitative researchers, includes haphazard, quota, purposive, snowball, deviant case, sequential, and theoretical sampling (Neuman, 2000). Purposeful sampling involves the selection of information-rich cases and is used when selection of a sample is made on the basis of “knowledge of the population, its elements, and the nature of your research aims: in short, based on your judgment and the purpose of the study” (Babbie, 1992, p. 230). Snowball sampling is a technique used to locate information-rich key informants (Patton, 2002). For example, expert reviewers were selected using purposive sampling. Snowball sampling would have been utilized if my initial attempt to retrieve expert reviewers was unsuccessful (i.e., potential reviewers not willing to participate in the study).

Sample size is the next issue to consider when deciding upon a sampling strategy. Sample size issues, however, are quite different for quantitative and qualitative researchers. In quantitative research, it is typically recommended to overestimate sample size to account for attrition and non-response (Lewin, 2005). In quantitative research, “The sample size will be dependent on the accuracy required and the likely variation of the population characteristics

being investigated, as well as the kind of analysis to be conducted on the data” (Lewin, 2005, p. 218).

Statistical power is also critical when designing a study and establishing sample size. By definition statistical power “represents the probability that effects that actually exist have a chance of producing statistical significance in your eventual data analysis” (Tabachnick & Fidell, 2007, p. 11). It is thus desirable to achieve a higher statistical power. In order to determine the necessary sample size the researcher must (1) estimate the size of the anticipated effect, (2) the variability expected in assessment of the effect, (3) the desired alpha level, (4) and the desired power (Tabachnick & Fidell). Neuman (2000) however, emphasizes that typically researchers do not have the required information for the “statistical method” and follow more traditional rules of thumb when deciding sample size.

Smaller populations for instance, (i.e., under 1000) require larger sampling ratios (i.e., approximately 30 percent or a sample size of 300) than do moderately sized populations (i.e., 10,000) and large populations (i.e., over 150,000; Neuman, 2000). Conversely, small sample sizes only require small increases to effect significant improvements to accuracy (Neuman). One may also increase statistical power simply by increasing sample size (Tabachnick & Fidell). The general rule however, is that larger sample sizes permit greater accuracy in representing the population.

In contrast, qualitative research has no rules for sample size (Patton, 2002). In discussing sample size, Patton remarks that, “Sample size depends on what you want to know, the purpose of the inquiry, what’s at stake, what will be useful, what will have credibility, and what can be done with available time and resources” (2002, p. 244).

Although the previous overview of research designs and sampling issues is not exhaustive, it does however provide the necessary background for explaining the various approaches utilized in the following study of conflict knowledge and management in Jasper National Park.

3.7 Study #1: Conflict Conceptualization and Scale Development

This first study contains two parts. The first sought to understand and evaluate the proposed conceptualization of outdoor recreation conflict, with the intent to understand the role of emotions in people's negative outdoor recreational experiences and to evaluate the notion that outdoor recreation conflict is the experiencing of negative affect. Following this, the aim was to develop a multi-dimensional, multi-item conflict scale capable of improving both researcher and practitioner understandings of conflict and being applicable in a number of practical circumstances for evaluating the frequency and magnitude of visitor conflict occurrences. In doing so, this first study addressed the following research questions.

Guiding Question: What is outdoor recreation conflict?

RQ1: What are the factors or variables that impact upon the occurrence(s) of conflict?

RQ2: What factors or variables possess the greatest amount of influence upon the occurrence(s) of conflict?

RQ3: How do park visitors evaluate the presence or occurrence of conflict?

RQ4: What affect do emotions have on people's outdoor recreation experiences?

3.7.1 Research Design

A mixed methods approach was utilized. One-on-one interviews were used to retrieve conflict related information that was used to inform the development of the questionnaire that was later administered in Jasper National Park (JNP). As Patton (2002) noted, qualitative data can be transformed into quantitative scales to be later used for statistical analysis.

Quantitatively, a number of methods were employed. Specifically, (1) established procedures

for scale development and testing as utilized and outlined by Mo, Howard, and Havitz (1993) and Dunn, Bouffard, and Rogers (1999) were employed in the development stages of the multi-dimensional, multi-item conflict scale, and (2) a questionnaire was developed and administered to outdoor recreation participants in JNP. Another important component of the research design was the ethics review process. Following the successful defense of the proposed research a detailed summary of the research was submitted to the Faculty of Physical Education and Recreation Ethics Review Board at the University of Alberta. The summary included details regarding participant recruitment, participant benefits and dangers, confidentiality/anonymity, data collection, and the secure storage of all data.

3.7.1.1 Focus Groups

The original research design specified the use of a seven to 10 person focus group for the purposes of better understanding the emotional conflict experience. The social context in which conflict occurs was anticipated to be provided by the focus group, which would afford a greater understanding of the role and effect of emotions in people's conflict experiences. Unfortunately, a number of issues arose when trying to secure focus group participants that unfortunately eliminated the focus group as a viable option. In the place of a focus group, one-on-one semi-structured interviews were conducted. Additionally, only two of the originally recruited focus group participants were able to be retained as interview participants. This small sample size eliminated the possibility of investigating the detailed nuances of the emotional conflict experience. This information was going to be used to help verify the proposed emotion-based conflict theory. Interviews were instead used to help inform certain aspects of the questionnaire development. Participants were questioned about the role of emotions during the conflict experience, however, there was insufficient data to be able to draw any firm conclusions.

The interviews, however, were able to establish that emotions are present during conflict and may be playing a part in participant reactions. It was not possible to conclude that conflict was the experiencing negative affect; however, the interviews provided evidence suggesting the importance of emotions and worth further investigation and analysis. A template of the questions and additional probing questions used for the one-on-one interviews is detailed in Appendix B.

3.7.1.2 Scale Development

Scale development followed a combination of the basic steps employed by Mo et al. (1993) and Dunn et al. (1999). The basic procedures employed two stages. The first stage represented scale development and consisted of four steps beginning with (1) the generation of possible scale items (See Appendix C) and identification of underlying dimensions through an extensive review of the conflict literature. An expert panel of five leisure researchers was utilized as recommended by Dunn et al. They suggest that little is to be gained from including more than ten, but five permits a sufficient level of control for chance agreement (Dunn et al.). The reviewers were subsequently utilized in (2) assessing the item content-relevance of each item. “Item content-relevance refers to the degree to which the content (or subject matter) contained within a test item is representative of the ‘targeted construct’ that the item is designed to measure” (Dunn et al., 1999, p. 16). In order to avoid biased assessments, the five reviewers were not involved in the original item-writing phase. Expert reviewers were asked to quantitatively rate the items using a uni-polar rating scale. Reviewers rated the degree of fit between the items and constructs using a seven-point unipolar scale (e.g., 1=very poor fit, 7=excellent fit). Reviewers were not told which items were intended to measure what constructs and thus were asked to evaluate the fit of each item for each construct. This “blind” approach

was recommended by Dunn et al. in order to avoid rating bias. Reviewers were also asked to provide qualitative item evaluations. This allowed reviewers the opportunity to comment on item content-relevance. Reviewer evaluations were assessed both qualitatively and through the use of quantitative statistical procedures. Items that either had poor statistical performance or whose wording was problematic were eliminated. Theoretical considerations were also employed. For example, some items may not have performed statistically well, but qualitative comments by reviewers were able to clearly identify the area(s) for improvement. In these circumstances, items were modified and retained for additional evaluation. Step three involved data collection in Jasper National Park throughout the summer months (July & August, 2008). Step four involved the assessment of scale reliability and dimensionality and the elimination of items with a weak overall fit. Analyses of the scales construct validity and predictive validity was also included. (Data analysis is explained further in section 3.7.3.1).

3.7.2 Sampling

Sampling for the one-on-one interviews occurred at Mountain Equipment Co-op (MEC) located in Edmonton, Alberta. Permission was obtained from MEC to set-up a recruitment station at the front of the store. A total of one week was spent recruiting participants. Recruitment times consisted mostly of three to four hours in the evenings and one three to four hour recruitment session on a Saturday afternoon. Despite all efforts only seven people were officially recruited to participate. Participants were provided with four dates/times and asked to rank the one that best suited their schedule. Previously, it was mentioned that interviews were conducted as a replacement for the focus group. This occurred because only one person showed up for the focus group. It was decided at that time that a one-on-one interview would be the most effective use of the situation and would allow the retrieval of some information. Contact

with the other six participants yielded only one additional interview. Information collected during the interviews was used to inform the development of the questionnaire later administered in JNP. The focus group was originally selected because it offered the ability to collect the most amount of information in the most efficient and cost effective manner. It was never feasible (time and money) to be able to interview multiple individuals. Although it is possible according to Patton to conduct qualitative research using one interview, two is still regarded as small when examining a new topic with a potentially large sampling frame.

For the quantitative portion of my investigation, sampling occurred in Jasper National Park (JNP). JNP is the largest of Canada's rocky mountain parks and is home to over 1200 kilometers of hiking trails for both day trips and overnight visits (Parks Canada, 2005, online).

In deciding on a specific location in the park, careful consideration was given to the time available for data collection and the number of desired completed surveys. The recommendation was put forth and the final decision was made to collect my data within the network of trails surrounding the Town of Jasper. This large area permitted a variety of access points, received considerable use throughout the summer months, and management personnel were aware of reports of conflict occurrences. Although a variety of user groups visit the area, the focus was on surveying mountain bikers and hikers/walkers. This allowed the research to be focused while retaining the ability to make comparisons and draw conclusions from two different groups that have a documented history of conflict encounters (e.g., Carothers, Vaske, & Donnelly, 2001; Heer, Rusterholz, & Baur, 2003). Derived from recommendations of the management personnel a total of seven locations were selected for participant recruitment. These locations ensured that a diverse network of trails, habitat, and user groups would be included in the sample. For

instance, according to management personnel, some trails attract serious hikers and bikers, while others receive use from more casual or recreational users.

3.7.3 Data Collection Procedures

As previously mentioned qualitative data collection utilized two one-on-one semi-structure interviews. Participants were interviewed in a private classroom in the Van Vliet Centre at the University of Alberta. Participants were asked to complete a consent form and following completion of the interview were provided a \$25 MEC gift certificate as remuneration for their participation. Both interviews were tape recorded to ensure accuracy of all information collected.

For administration of the questionnaire permission was received from Parks Canada to enter JNP and to survey visitors using the trail network surrounding the Town of Jasper throughout the months of July and August. Development of the questionnaire was conducted in co-operation with members of the JNP management team and my supervisor Dr. Gordon Walker. The structure, design, and wording of all questions included in the final instrument were carefully evaluated (i.e., for clarity, biases, etc) prior to the start of data collection. The final questionnaire was representative of the conflict literature and approved by all parties involved in its development. Participants for the quantitative portion of my research were approached as they exited a trail or it was perceived on the part of the researcher that they (e.g., an individual or group) were completing/finishing their recreation experience. Surveying users/visitors following their leisure experience was chosen because participants would have a current experience to reflect upon that would help yield more informative data. Each participant was provided with an information letter explaining the details and purpose of the study as well as the questionnaire attached to a clipboard, along with a pen. Upon completion questionnaires were collected and

stored in an envelope in my backpack. At the end of each day questionnaires were transferred to a sealed box. A total of 460 completed questionnaires were collected. Attempts were made on a daily basis to rotate between each of the seven identified data collection locations. This was to help ensure diversity of the survey sample. Two locations, however, were most productive and were utilized most often. Because of limited time available for data collection and limited success at the remaining locations data collection continued at the locations where it was going to be possible to retrieve a minimum number of 400 questionnaires.

3.7.3.1 Qualitative Data Analysis

Qualitative data analysis involved several stages, as outlined by Patton (2002). Qualitative analysis started once the one-on-one interviews had begun and continued throughout. As the primary moderator I began to take notice of any recurrent trends, themes or topics that arose during the interviews. A second phase of initial analysis occurred with the transcription of each interview. It was possible here for the researcher to begin to develop some preliminary interpretations from both interviews. Content analysis occurred next as the data was condensed to permit the next stage of inductive and deductive analysis, where the data was open-coded for patterns and themes (Patton). Deductive analysis attempted to identify support for my proposed conflict conceptualization. Inductive analysis helped to identify any explanations for the impact and role of emotions in people's outdoor recreation experiences. Data from the interviews was compared and analyzed to unearth consistencies and inconsistencies, which was hoped would shed light on the role and affect of negative emotions during the outdoor recreational experience. An argument could be made that two interviews is not sufficient to provide meaningful data; "The validity, meaningfulness, and insights generated from qualitative inquiry have more to do with the information richness of the cases selected...than the sample size" (Patton, 2002, p. 245).

In fact, findings from the interviews demonstrated consistency with data retrieved from JNP. For example, both sets of data illustrate that participants are aware of their emotions and that negative emotions have the ability to influence willingness to return to a certain recreation location. Data from this portion of the study was utilized to help inform the development of the questionnaire that was going to be used for surveying visitors to JNP. A copy of this questionnaire can be found in appendix D.

3.7.3.2 Quantitative Data Analysis

Before data entry all questionnaires were examined to ensure that they were complete and free from errors, such as incomplete questions, or questions in which too much information was given, such as checking too many boxes. Quantitative analysis was conducted with SPSS 17.0 and LISREL. Descriptive and inferential statistics were utilized in describing the sample of park visitors while factor analysis (exploratory and confirmatory factor analysis) and structural equation modeling (See Hayduk, 1987; Kline, 2005) were also utilized in assessing the reliability and validity of the proposed outdoor recreation conflict scale items. Analysis followed similar procedures to those utilized by Mo, Howard, and Havitz (1993). Cronbach's coefficient alphas were utilized to assess both item and dimension reliability. Corrected item-to-total correlation scores were used to decide whether an item should be deleted based on whether its elimination resulted in improved alpha values. As suggested by Nunnally (1978) a reliability score of .70 or higher was sufficient when working with hypothesized measures of a construct. In fact, he acknowledged that trying to achieve reliabilities of .80 or higher can be a waste of time when conducting basic (i.e., proposing or testing a theory) research. Significant efforts would have to be made to increase the number of items and also reduce measurement error in a variety of ways. Note, that only one round of data collection occurred. Two rounds were planned, however,

because of the time required to complete the first round it was no longer feasible to conduct the second round. To compensate and to improve the robustness of analysis of the JNP data, the data was split permitting split-sample confirmatory factor analysis (CFA) (e.g., Kim, Zhang, & Connaughton, 2010). Repeated validation with a completely different sample would have provided the more accurate means of assessing validity and reliability of the proposed scale. Current results suggest a scale that is both valid and reliable, however, repeated validation is recommended.

Assessing dimensionality of the scale was accomplished using exploratory and confirmatory factor analysis (CFA). These procedures were used to establish whether a three-factor solution (i.e., emotional, core affect, and cognitive) was most appropriate. Mo et al. (1993) utilized a factor-loading cutoff of 0.36 in their development of the International Tourist Role Scale with a sample of at least 400. A liberal measure of 0.36, however, will increase the likelihood of finding mixed factor loadings. For the purposes of the following research the guidelines suggested by Comrey and Lee (1992) were utilized. They suggested that factor loadings greater than .71 are excellent, .63 are very good, .55 are good, .45 fair, and .32 poor. Nunnally also suggested that particular attention should be given to factor correlations. "One way to fool yourself with factor analysis is to ignore the correlations that are used to define a factor" (Nunnally, 1978, p. 433). As such, careful attention was given to help ensure that substantial correlations exist among variables of the same group and that much smaller correlations exist between variables in the different factors. As a general rule, Nunnally cautioned researchers to be "suspicious of factor estimates obtained with a multiple correlation of less than .50" because in situations like these it is possible that only 25 percent of the variance of the factor scores can be predicted by the variables themselves. In order to ensure confidence

in a multiple correlation of .50, it has been strongly encouraged to survey at least 10 times as many people as there are variables (Nunnally). Provided that this is not possible a multiple correlation of .70 will be utilized based on Nunnally's recommendation.

3.7.4 Limitations/Delimitations

Limitations are shortcomings that have arisen throughout the progress of the study. Delimitations are areas that the study purposefully does not address. This study is currently limited because focus was given to one of Canada's many national parks and results are not generalizable to the system as a whole. Secondly, it was not possible to question all park visitors engaged in all of the different kinds of activities and data collection was limited to only a few sites within the entire national park. This had much to do with time, money and resource limitations. The elimination of the focus group and inclusion of only two one-on-one interviews was unexpected. Because of the small size evaluation of the the proposed conflict conceptualization was not possible. However, data was used to properly inform the survey development. Resource limitations unfortunately restricted the ability to conduct additional interviews, but perhaps more importantly prevented follow-up interviews from taking place that may have been able to shed more light on the applicability of the proposed conflict model.

3.8 Study #2: Conflict Knowledge Management

This second qualitative investigation involved the interviewing of Parks Canada officials (practitioners), specifically those involved in the management of Jasper National Park. The purpose of this qualitative study was to provide insight into the knowledge transfer process occurring between researchers (i.e., external to the park) and Parks Canada agency officials. As a means of integrating the two studies, participants were asked to provide feedback on the proposed model/scale from the first study. Generally, discussion examined the usability and

usefulness of the study findings to park managers of JNP. Establishing the usefulness and usability of the scale represented one of the primary foci of this study. Solutions or ways to improve usability/usefulness of the findings was also investigated. As such, the study was guided by three sections of questions.

Conflict Knowledge Management:

The first section was broad and explored general patterns of information use, including the types of information used, how access is gained to research information, whether information is useful and any barriers restricting/inhibiting use of research information. The second section of questioning related to managers relationships with academics. Specific topics addressed were: importance/value of working relationships, effectiveness of the communication process, barriers, and desires for future working relationships. The final section reflected feedback on my proposed conflict scale. This section was guided by the following questions:

Guiding Question: How is the new outdoor recreation conflict conceptualization usable and applicable to managers in Jasper National Park?

RQ1: Is the proposed outdoor recreation conflict conceptualization/theory relevant to the current needs and goals of parks officials?

RQ2: Is the conceptualization usable/useful for improving current user management?

RQ3: What aspects of the proposed conceptualization are viewed as being of little use to parks Canada?

RQ4: What barriers are present that may be inhibiting the usability/usefulness of the proposed conflict theory?

RQ5: What specific recommendations can be put forward to improve the usability/usefulness of the proposed outdoor recreation conflict conceptualization?

3.8.1 Research Design

A qualitative survey research design, making use of one-on-one interviews using the combined interview guide and standardized format was utilized in answering these questions. A list of interview topics and standardized questions is presented in the appendix E. Topics and

questions are categorized under *perceptions of knowledge, use of knowledge, research/practice relationship*, which are believed to address the primary concerns of knowledge management unearthed in the literature, as well as a section devoted to the proposed conflict scale. The reader will recall that exploratory research is most often associated with qualitative research (Babbie, 1992). Patton (2002) recommended that researchers maintain their flexibility by refraining from utilizing one type of interview format. Utilization of the interview guide permitted the discussion of topics, perhaps not previously considered by the researcher, while the standardized format ensured that all necessary questions and topics were covered prior to finishing the interview (Patton, 2002). There is a need to provide an in-depth examination of knowledge diffusion and a qualitative approach provided the most effective means of unearthing new information. The feelings, opinions and beliefs of those involved (i.e., managers) are critical to understand, because it is the researchers typically conducting and presenting new knowledge and the managers attempting to understand and implement the findings.

3.8.2 *Sampling*

The sample frames for this study included all those managers involved in Jasper National Parks management. An initial snowball sampling strategy was employed to help identify potential participants. Key informants (i.e., Dr. Elizabeth Halpenny) were utilized to help establish a group of potential participants representing key personnel involved in the management efforts occurring in JNP capable of addressing the above mentioned questions. Final selection of participants used criterion sampling based on the following criteria: (1) that individuals were involved in the day-to-day implementation and/or development of JNP management practices; and (2) were of significant standing to possess substantial knowledge related to national park management. The intent was to conduct a total of seven interviews with

JNP management personnel. A total of eight individuals were contacted to be involved with the study. Each individual was sent an information letter along with a copy of an executive summary of my quantitative research findings (i.e., scale development evaluation). The majority of the individuals were members of the JNP management team, while the remaining were senior employees of Parks Canada working out of Ottawa, Ontario. Readers are directed to table 36 for a description of each participant.

3.8.3 Data Collection Procedures

Once agreement was received from all participants, dates, times and locations were arranged for conducting of the interviews. Because of resource limitations (e.g., money) and the proximity to potential participants, some interviews were conducted using the telephone. Interviews were approximately one to one and a half hours in length and were recorded with the permission of the interviewee in order to ensure the accuracy and validity of participant responses. Following data collection, all tapes were verified to ensure that they taped and participants were provided with a thank you letter.

3.8.3.1 Data Analysis

Data analysis involved several different stages. Initially, qualitative analysis began during the interview process. As interviews were completed, and transcribed the researcher was able to begin to draw some preliminary interpretations of the responses. Content analysis occurred next as the data was condensed to permit the next stage of inductive analysis, where the data was open-coded for patterns and themes (Patton, 2002). Data from the three sub-groups was subsequently compared to help unearth consistencies and inconsistencies, which helped shed light on improving the knowledge transfer process.

3.8.3.2 *Limitations*

Thorough examination of the proposed theoretical conflict understanding through a focus group represents one limitation of the present study. Because of complications during the participant recruitment process one-on-one interviews with two individuals was substituted for the original focus group of seven to 10 people. Time restrictions did not permit additional attempts at securing a focus group or additional individuals to be involved in one-on-one interviews. The decision was made to conduct two interviews, and collect some information, rather than eliminate this step of the research process. This study is also limited because it was not possible to conduct interviews with personnel from all of Canada's national parks. Each park is likely to be different, but also similar with regard to management function, access to research, and social issues (e.g., conflict) and environmental issues requiring management intervention. As the largest national park, Jasper is likely to possess one of the larger annual budgets, making access to relevant information possible compared to parks with smaller budgets. Results found here provide an interesting starting point with which comparisons might be made against smaller national parks. Results also suggest that communication between parks is common and therefore different parks may actually have similar experiences in accessing and using research information. Involvement of people working out of Parks Canada's head office also offers some more generalizability to other national parks, than would have been possible had JNP management been the only people interviewed. Ultimately, time and money limitations restricted the ability to contact and interview all available individuals. Some sacrifices were made and consequently some individuals were asked to participate simply because their location made them more convenient and conducive to the completion of the study. All attempts, however, were made to ensure that the most appropriate individuals were first selected for

involvement. The current study is limited because it did not include academics as interviewees. Academics are vital to understanding and improving the knowledge management process, and involving academics in a similar interview process would prove valuable in future research.

CHAPTER FOUR

Interviews: Evaluating the Affective Conflict Experience

4.1 Introduction

“A focus group interview is an interview with a small group of people on a specific topic” (Patton, 2002, p. 385). It was stipulated earlier that the focus group would ‘serve the primary purpose of evaluating and developing a deeper understanding of the proposed outdoor recreation conflict conceptualization’. It was also proposed that potential participants would be recruited through outdoor recreation organizations (e.g., Sierra Club, Mountain Equipment Co-op or MEC, etc.) because it was important that participants be regarded as being frequent (i.e., at least 5 times per month) participants in outdoor recreational pursuits (e.g., hiking, biking, bird watching, camping, etc.). Permission was received from Mountain Equipment Co-op (MEC) an outdoor gear retailer located in Edmonton, Alberta, to set-up a recruitment station at the front of the store whereby individuals could learn about the research project and sign-up to participate in the focus group. A total of seven individuals were recruited to participate, which was in agreement with Patton’s recommendation of seven to 10. A date and time for the focus group was successfully arranged with each of the participants and a classroom in the Van Vliet building at the University of Alberta.

Unfortunately, because only one individual showed up for the focus group, the decision was made to conduct a one-on-one interview. A second individual was successfully contacted thereafter; meanwhile additional attempts to contact the remaining five individuals were unsuccessful. The decision was again made to conduct a second one-on-one interview with the second participant. Interviews lasted approximately one hour and used the semi-structured interview guide originally developed for the focus group to help direct the interviews.

Participants completed a consent form and interviews were tape recorded. Following the interviews, participants were provided with a \$25 MEC gift certificate as remuneration for participation.

Data from the focus group was originally intended to help inform the proposed emotional-based theory of conflict. Although the data was able to establish the existence of positive and negative emotions of a recreation experience, because of the two person sample size, all collected data was used to aid in the development of questions to be included in the Jasper National Park survey.

4.2 Analysis and Findings

Analysis followed the same procedures employed for the knowledge management interviews with Jasper National Park staff. Readers are encouraged to consult this section for a more detailed explanation of the qualitative analysis procedures. The process involved the creation of verbatim transcripts and utilized inductive analysis that, "...involves discovering patterns, themes, and categories in one's data" (Patton, 2002, p. 453). This stage of the analysis process involved the implementation of line-by-line coding wherein each line of data was examined and initial codes given to help define any actions or events (also called units of meaning) within the lines (Charmaz, 2000). Data reduction occurred via axial coding whereby initial codes discovered during line-by-line coding are grouped as concepts under broader categories (Corbin & Holt, 2005).

Initial codes of data were grouped into seven concepts representing three broader categories. The three broad categories included: positive emotions, negative emotions, and conflict/negative encounters. Participants' responses within these categories were used to inform the creation of relevant and informative survey questions.

Participant responses under positive emotions were labelled as either *causes of positive emotions* or *reported positive emotions*. Nature was the sole reported cause of positive emotions. For example, participant one (henceforth to be referred to as P1) said, “It’s gorgeous, it’s beautiful, you see the fresh air and feel it on your face...you relax and it feels so good to be outside...”, meanwhile participant two (henceforth to be referred to as P2) said, “Big mountains, the lake I’d say probably the gorgeous lakes up there”. As a result participants reported feelings of tranquility, relaxation, calming, contentment (P1) and awe and wonderment (P2) with P2 stating, “Those were powerful emotions...yeah it was it was good”.

Participants also reported on their negative emotions with two sub-themes emerging: *reported emotions* and *awareness*. The causes of their negative emotions are discussed under the broad category, conflict/negative encounters. Both participants almost exclusively mentioned that they would feel annoyed/annoyance: “I would definitely, I would say annoyance, I would be annoyed...” (P1) and “Yeah, I pretty much just get annoyed...” (P2). In describing one situation P2 admitted to occasionally feeling mad/angry, saying, “I was pissed off I was right mad...That’s probably the maddest I’ve been about something...” The second sub-theme was awareness. In attempting to understand the impact of negative emotions on people’s experiences I was also curious to know if participants were aware of their negative emotions as they were experiencing them and similarly, were they aware of mood changes from positive to negative. Responses were somewhat varied, but also provided a potential explanation why. P1 said, “I would probably notice it afterwards that I was mad...it’s not like I’m consciously aware of the fact that I’m getting mad or annoyed...” A comment from P2 suggested the opposite occurred: “I get kind of disappointed because you’re enjoying yourself so much and then all of a sudden something

crappy happens, you're like uh and you can feel all of your energy just drain out of you...I did realize as soon as I got annoyed I'm like I don't know I think I constantly self-reflect...".

According to Shaver, Schwartz, Kirson, and O'Connor (1987), "A substantial part of interaction involves interpreting one's own [...] emotional reactions, predicting reactions from antecedent events, [and] controlling emotional expressions..." (p. 1062). Both participants also suggested that awareness was dependent upon the intensity of the experienced emotion. For instance, "...the more the negative emotion I would be less aware I am of my emotion...Like the more angry I get the more I lose sense of what the problem is what my issue is, whereas the happier I get I think the more aware I am of why" (P2), and "I think it depends really on the intensity of the emotion like, the grumpier or the angrier I get the less my rationale and thought process exists" (P2). P1 attributed this to adrenaline, "my adrenaline kicked in and it wasn't a coherent exchange anymore..."

Participant responses under the broad categories of positive emotions and negative emotions supported the inclusion of six questions in the visitor survey (i.e., 9, 10, 11, 12, 13, & 14). These particular questions had participants identify all positive and negative emotions experienced, the single-most reported of those positive and negative emotions, and finally the cause(s) of that single-most reported emotion. Participant awareness and impact of negative emotions also resulted in the creation of questions 16 (J & K); while awareness and intensity feedback resulted in questions 18 and the phrasing "powerful enough".

Participant responses categorized under conflict/negative encounters included the sub-themes: *causes*, *defining*, and *coping*. A summary of these findings is presented in the Tables three, four, and five respectively. Connections to specific questions used in the Jasper National Park questionnaire are also highlighted.

Table 3
Participant Responses for Causes of Conflict/Negative Encounters

Causes	Supporting Literature	Survey Questions
<p>“Something else that annoys me, like if I’m hiking along and see people trail cutting, like if they’re making their own path” (P1)</p> <p>“I’ve yelled at people for that, going on trails that are closed for rehabilitation” (P1)</p>	<p>Environmental attitudes (e.g., Jackson, 1989)</p> <p>Visitor-based standards of quality (e.g., Manning, Morrissey, & Lawson, 2005)</p>	<p>#16 (Seeing others using unofficial trails)</p>
<p>“I was riding my bike...I was going up hill...and a lady tried to put a stick in the spokes of my bike and it actually escalated to a swearing match which I would definitely call a conflict” (P1)</p>	<p>Safety concerns (e.g., Manning, 1999)</p> <p>Interpersonal conflict (e.g., Schneider, 2000a)</p>	<p>#16 (Having personal goals interfered with)</p>
<p>“there were a lot of helicopters flying really low over...It was just cause of the noise” (P2)</p>	<p>Noise (e.g., Schuster, Hammitt, & Moore, 2006; Manning, Newman, Frstrup, Stack, & Pilcher, 2009)</p>	<p>#16 (Excessive noise caused by other trail users)</p>
<p>“once the trails were totally destroyed by horses” (P2)</p>	<p>Visitor-based standards of quality (e.g., Stewart & Cole, 2001)</p>	<p>#16 (Exposed roots/wear on the trail)</p>
<p>“Whenever I see litter it drives me up the wall” (P2)</p>	<p>Litter (e.g., Schuster et al., 2006)</p>	<p>#16 (Witnessing disrespectful behaviour & Different environmental value)</p>
<p>“it was just this picturesque lake and I see these people floating around in these little inner tubes drinking beer and this huge gigantic grotesque tent...it ruined that view” (P2)</p>	<p>Social values (e.g., Carothers, Vaske & Donnelly, 2001)</p> <p>Individual and group norms (e.g., Watson, 1995)</p>	<p>#16 (Encountering people with different recreational values)</p>
<p>“we’re on the highway and we saw a caribou on the side of the highway...we told them they should get back in their car...the guy wouldn’t listen to us and I was pissed off” (P2)</p>	<p>Individual and group norms (e.g., Watson, 1995)</p>	<p>#16 (Encountering people with different environmental values)</p>

Table 4
Participant Responses for Defining Conflict/Negative Encounters

Defining Conflict	Supporting Literature	Survey Question(s)
“I guess I would classify conflict once it got to a swearing or yelling back and forth or anything physical” (P1)	Interpersonal conflict (e.g., Carothers et al., 2001)	#15 (How would you describe/define outdoor recreation conflict)
“because there was no safety concern it wasn’t really conflict it was more of an exchange” (P1)	Safety (e.g., Manning, 1999)	#15
“as soon as you have any type of annoyance it’s an intrapersonal conflict...anything that takes away from your happiness and you’re aware of it I would say that it’s intrapersonal conflict” (P2)	Intrapersonal conflict (e.g., Schneider, 2000a)	#15 and #8f (I am easily disturbed or irritated by the actions of others)

Table 5
Participant Responses for Coping with Conflict/Negative Encounters

Coping Responses	Supporting Literature	Survey Question(s)
“I think when that happens you tend to focus on what’s happening and then you realize that it’s nice out, enjoy it, deal with it and once you notice it you’re happy now” (P1)	Coping/Rationalization (e.g., Schneider & Hammitt, 1995)	#18 a, b, c, d
“It actually wrecked my experience for quite awhile, until I crossed the river and I saw a deer in Hawrelack Park...that kind of kicked me out of it” (P1)	Coping (e.g., Johnson & Dawson, 2004)	#18 a, b, c, d
“I would say the more severe the conflict and the more severe the emotion the longer I mull it over” (P2)	Coping (e.g., Schneider & Hammitt, 1995)	#18 a, b, c, d
“I’m less inclined to go back to that lake where the helicopters [were]” (P2)	Coping/Displacement (e.g., Schneider & Hammitt, 1995)	#18 d and #8 e
“If you can do something about it than just do it, if you can’t do anything about it don’t worry about it” (P2)	Coping (e.g., Schneider & Hammitt, 1995)	#18 a

Careful examination of participant responses showed a variety of reasons for conflict/negative encounters to occur. Some of these reasons included environmental attitudes and individual differences in beliefs, safety, noise, and litter. Definitions of conflict suggested quite strongly that an exchange or confrontation needed to occur in order for a situation to be characterized as conflict. The identified causes of conflict/negative encounters illustrate that conflict may not be as easily distinguished as simply a confrontation; other situations may exist that prompt conflict-like feelings. As a result an open-ended question was included in the survey asking participants, “Based on your previous experience how would you describe or define outdoor recreation conflict?” This approach was also supported by Watson’s (1995) statement that, “there has never been agreement on how recreation conflict should be measured” and how it should be defined (p. 237). Finally Schneider and Hammitt (2005) may have been correct when they stated that, “further progress toward understanding and managing conflict would seem enhanced if researchers redirected [their] attention...toward visitors’ responses to conflict” (p. 225).

Findings reveal participants use a variety of coping mechanisms including rationalization and displacement. Most importantly, participants were able to bring a small level of emotional understanding to recreation conflict. Their responses revealed that both positive and negative emotions are experienced and that the severity or intensity of the negative emotions may play a role in how they react to it and how it impacts their recreation experience. Questions 18 (a, b, c, & d) were introduced to address the impacts of negative emotions. Framing coping questions around negative emotions seems like a natural progression when the goal is to better understand the role of negative emotions on the visitor experience. The following sections provide analysis of these and other questions included in the visitor survey.

Quantitative and Qualitative Results

4.3 Introduction

The purpose of this study was threefold: (1) to evaluate a new and expanded model of outdoor recreation conflict, (2) to develop and validate the reliability of a multi-item, multi-dimensional conflict scale, and (3) to provide an investigation of the outdoor recreation conflict knowledge transfer process within Canada's national parks. This chapter will begin with an overview of the data collection procedures but will focus on presenting findings from four different analyses. The first section details descriptive and statistical results regarding participant characteristics, experiences, and commonly found conflict-related variables. Section two presents the analysis and findings of participant open-ended responses to questions regarding their reported emotions, causes of their emotive feelings, and personal definitions of outdoor recreation conflict. The next section offers the statistical analysis of the proposed emotions-based conflict scale utilizing exploratory and confirmatory factor analysis, as well as regression and correlation. Finally, section four presents findings from study two: a qualitative investigation of the outdoor recreation knowledge transfer process in Canada's national parks. This analysis aims to answer an explanation for the following research questions: (1) How do park visitors evaluate the presence or occurrence of conflict? (2) What effect do emotions have on people's outdoor recreation, and more specifically (3) What role do negative emotions play in the experiencing of outdoor recreation conflict? Knowledge management findings will aim to answer: (1) Is recreation conflict knowledge being disseminated/transferred between its producers (i.e., academics) and its intended users (i.e., parks management officials)? (2) Is current recreation conflict knowledge relevant to the current needs and goals of parks

officials?, and (3) What barriers are present that are inhibiting the dissemination of conflict knowledge?

4.4 Quantitative Data Collection Procedures

Data for evaluating conflict and the emotions-based conflict scale were collected between the dates of June 27 and August 5th, 2008 in Jasper National Park, located in Jasper, Alberta, Canada. A select group of trail locations (See Appendix F) surrounding the Town of Jasper were selected with the assistance of Parks Canada management personnel. These locations were selected because of reported incidences of user conflicts and because of frequent use by both visitors and residents. Participants were purposefully selected based on their chosen outdoor recreation activity: hiking or mountain biking. Potential study participants were nonetheless randomly approached at trailheads and parking lots near the entrances and exits of the trail locations (See Appendix F). Every fifth person was approached whenever possible. However when a limited number of visitors were present, every person or single individual from a group was approached and asked to participate. This approach help ensure that a sufficient number of completed questionnaires was collected. Other user groups (e.g., horseback riders) were not approached in an effort to simplify and therefore provide a deeper analysis of the behaviours and relationships between two different users groups that commonly share the same resources and trail networks. It was critical that potential participants be concluding or currently involved in a hiking or mountain biking experience because a number of questions asked potential participants about their actual (vs. intended) outdoor recreation experience. A number of questions were focused on potential participants' current outdoor recreation experience and therefore individuals just beginning their hiking or mountain biking experience were not eligible. Individuals who were participating in hiking or mountain biking or finishing their outdoor recreation pursuit were

approached and asked to complete a 15-minute questionnaire. Data collection locations were rotated daily in an effort to maximize the diversity of users from the multiple trail locations.

4.5 Description of Sample and Travel Characteristics

In total 810 people were approached and asked to participate in the study. A total of 460 individuals agreed to complete the questionnaire. Two questionnaires were later removed because they were incomplete. This resulted in a total of 458 questionnaires and a response rate of 56.5%. Table 6 describes the age, while Table 7 presents gender and resident status of the participants. The high proportion of older travelers is not completely surprising given that Lehto, O'Leary, and Lee (2001) noted that older people are more active travelers than 10 years ago: "In general, today's seniors are healthier, richer, more educated, more independent and free from obligations than older people in the past" permitting more time for travel (Nimrod & Rotem, 2009, p. 65). In a study of rural tourism in Canada Beshiri (2005) found that approximately 60% of overseas visitors comprised the age group 20-54 and 30% the group aged 55 and over. Additionally, Beshiri found that older overseas tourists were more likely to visit rural regions, compared to the under 20 group that clearly preferred urban regions. The greater proportion of males than females in this study is also not surprising. Collins and Tisdell (2002), in their analysis of Australian travel data from 1998, found that males dominated travel by Australian residents in all age categories except for one (15-24), where females represented 55.3%. Research has revealed that women are still more constrained compared to men in seeking leisure and tourism pursuits, which may explain the presence of a greater number of male travelers (Wilson & Little, 2008). Wilson and Little point out that solo female travel is on the rise. Results from this study also indicate that tourists or non-residents significantly out-numbered Jasper residents. For example, the Town of Jasper has a population of 4745 people

(Municipality of Jasper, 2008), however, in 2007-2008 Jasper National Park had visitation well over 2,000,000 (Parks Canada, 2008). Jasper, Alberta is a very popular tourist location and the months of June, July, and August represent the summer months that receive the greatest visitation from non-residents.

Table 6:
Age of Participants

	Min	Max	Mean	SD
Age	14	78	43	13.71

Table 7:
Gender and Resident Status

Gender	N	%	Resident	N	%
Male	261	57	Yes	33	7.2
Female	197	43	No	425	92.8

Participants were also asked to indicate their country of residence. Of the 425 individuals who were not residents of Jasper, Alberta, only two respondents did not indicate their country of residence. In total 22 different countries were represented. The largest group was from Canada (n=208) followed by the United States of America (n=66), England (n=49) and then Germany (n=23). Other countries represented included the Netherlands (n=16), Belgium (n=11), Australia (n=9) and Switzerland (n=8). The remaining countries had representation of less than 7 people: Holland, Scotland, France, Israel, Austria, Wales, New Zealand, Denmark, Czech Republic, Ireland, China, Spain and Bahrain. Not including those who were Jasper residents (n=33; 7.2%) a total of n=215 or just over 50% of the participants were considered international or visiting/traveling from another country.

In light of the number of people who were visiting from other countries it should perhaps not be unexpected that a significant portion of participants were highly educated. One may assume that more highly educated individuals not only possess higher amounts of discretionary income but may also as a result of their education be more interested in travel, in particular international travel. In fact, 32.5% of participants had received a University Bachelor's Degree, followed closely by 31.6% who had received a University Graduate Degree. An additional 16.3% had earned their College Diploma, while only 13.7% of participants had received a minimum high school level education. A total 5.9% reported "other" forms of education (e.g., trade school). Manning (1999) noted that "visitors to outdoor recreation areas, especially more resource oriented areas such as national forests, national parks and wilderness tend to be...of relatively high socioeconomic status as defined by income, occupation, and especially education" (p. 26). Additionally, in a review of the socioeconomic characteristics of outdoor recreationists in 21 separate studies, 19 reported high levels of education, the remaining two possessed middle to high levels of education (Manning).

Participants were also asked to indicate how long they were planning on staying in Jasper, Alberta and with whom they were traveling (Table 8).

Table 8
Who Traveling With and Length of Stay

	Min	Max	Mean	SD
Length of Stay (Days)	1	128	5.2	11.2
<i>Travel With</i>	<i>No</i>	<i>%</i>	<i>Yes</i>	<i>%</i>
Alone	426	93.0	32	7.0
Friends	355	77.4	103	22.5
Family	327	71.4	131	28.6
Partner	228	49.8	230	50.2
Other	444	96.9	14	3.1

Approximately half of all participants indicated that they were traveling with their partner, while 28.6% said that they were traveling with their family. The older average age of participants may account for this, as many of them are likely to be married as well as have children. Participants were asked to “check all that apply”, and therefore an individual that checked off that they were traveling with their partner may have also checked off that they were traveling with their family. This level of group travel is expected according to previous research. Manning said that the dominance of social groups has been “corroborated for most outdoor recreation areas and activities” (1999, p. 32). Manning does not identify the particular outdoor recreation activities where social groups have been dominant. It is worth pointing out that traditionally outdoor recreation research has focused on a specific subset of activities and their interactions: hikers and mountain bikers (e.g., Carothers, Vaske, & Donnelly, 2001; & Tumes, 2007), skiers and snowmobilers (e.g., Vaske, Needham, & Cline, 2007). Research on camping

(e.g, Clark et al., 2009) and sport hunting (e.g., Reis & Higham, 2009) has recently appeared in the literature. Hunt and Ditton (2002) also studied freshwater fishing participation, noting that Mexican-American and Anglo anglers in Texas fished most often in social groups consisting of family and friends; African-American anglers were, however, more likely to fish alone.

Participants also spent an average of 5.2 days in Jasper. Beshiri (2005) noted that overseas travelers to Canada stayed between two and six nights. The large standard deviation of 11.2 also suggests that many participants spent upwards of two weeks visiting and recreating in Jasper, Alberta.

Next participants were asked to identify the outdoor recreation activity that they were participating in on the day that they completed the questionnaire. Almost three-quarters identified themselves as hiking/walking followed by almost a quarter of people that said they were cross-country mountain biking. This was expected as the intention of the study was to survey as many people that were hiking and mountain biking as possible. A small percentage of individuals also identified themselves as either dog walking, jogging, downhill mountain biking or other (Table 9).

Table 9
Primary Outdoor Recreation Activity

	n	%
Hiking/Walking	327	71.4
Cross-Country Mountain Biking	110	24.0
Downhill Mountain Biking	13	2.8
Jogging	3	0.7
Other	3	0.7
Dog Walking	2	0.4

Immediately after identifying their primary outdoor recreation activity, participants were asked to consider whether they felt they possessed a high level of knowledge/expertise about their outdoor recreation activity. Participants responded using a 7-point uni-polar scale (1=Strongly Disagree, 7=Strongly Agree). Most people (28.2%) agreed that they possessed a high level of knowledge/expertise, followed closely by 26.0% who somewhat agreed and 20.1% who responded as neutral. At least 60% of all participants consider themselves to possess some level of knowledge about their chosen outdoor recreation activity.

4.6 Trail Use Preferences and Motivations

Participants were also asked a number of questions related to their trail use in Jasper, their preferences while using the trails, and motivations for coming to Jasper and using the trail network around the town.

4.6.1 Use and Knowledge of the Jasper Trail Network

The research was interested in determining how many times participants had used the Jasper trail network in the past 30 days as well as their knowledge of the trail system. Almost

90% of all participants indicated having used the trail system between 0 (on the day of completing the questionnaire it was their first time) and five times. The highest percentage was for those individuals that indicated that they had only used the trails around the town of Jasper once in the past 30 days (37.6%). This was followed by two times (25.3%) and three times (10.0%). This level of usage was not unexpected given the percentage of people who indicated that they were non-Jasper residents (92.8%) and the number of people who were international visitors from other countries. Some participants did indicate having used the trails upwards of 10 (2.0%), 15 (1.1%) and 30 (0.9%) times with one individual indicating 40 times in the past 30 days.

Participants were next asked to identify their level/degree of knowledge/expertise about the Jasper trail network (See Table 10). Respondents answered on a 7-point Likert scale (1=Strongly disagree; 7=Strongly agree).

Table 10
Knowledge of Jasper Trail Network

	Strongly Disagree n(%)	Disagree n(%)	Somewhat Disagree n(%)	Neutral n(%)	Somewhat Agree n(%)	Agree n(%)	Strongly Agree n(%)
I possess a high level of knowledge and expertise about the trail network	61(13.3)	69(15.1)	93(20.3)	83(18.1)	59(10.9)	73(15.9)	29(6.3)

Note: $m=3.61$, $sd=1.784$

In light of the low usage numbers mentioned above it was highly likely that only 29 people (6.3%) strongly agreed that they possessed a high level/degree of knowledge. The reader may recall that 33 people identified themselves as Jasper residents. The highest percentage were for those who somewhat disagreed (20.3%), although an almost equal number of people chose

neutral (18.1%). The results also reveal that approximately 25% of respondents considered themselves to possess at least some degree of knowledge about the trail network. What is uncertain is when this knowledge was acquired. First time international visitors may have only acquired their knowledge within the previous couple of days through reading about Jasper and planning their outdoor experiences.

4.6.2 Importance of Jasper National Park and Trail Network

To more accurately study potential conflict occurrences between the users of the Jasper trail network it was imperative to develop an understanding of how important Jasper National Park as well as the trail network were to participants' overall enjoyment. It was also vital to measure the attachments that participants have for/towards Jasper National Park and the trail system. Individuals with strong place attachment can serve as barometers for environmental and social change and also as reliable indicators of place quality. In fact, Warzecha and Lime (2001) noted that, "...it is the values that people attach to places that are often at the heart of natural resource management conflicts" (p. 60).

Participants were first asked to indicate how important (1=Not at all important, 7=Very Important) Jasper National Park (JNP) and the trails around the Town of Jasper were to their overall enjoyment of their recreation experience (See Table 11).

Table 11
Importance of Jasper National Park and Trail Network to Overall Enjoyment

	NI n(%)	U n(%)	SU n(%)	N n(%)	SI n(%)	I n(%)	VI n(%)
Importance of Jasper National Park	1(0.2)	2(.04)	2(0.4)	26(5.7)	59(12.9)	155(22.8)	213(46.5)
Importance of trail network	3(0.7)	6(1.3)	7(1.5)	34(7.4)	78(17.0)	149(32.5)	181(39.5)

NOTE: NI=Not at all Important; U=Unimportant; SU=Somewhat Unimportant; N=Neutral; SI=Somewhat Important; I=Important; VI=Very Important

Participants reported a mean of 6.18 (sd=.98) for importance of JNP and 5.95 (sd=1.17) for importance of the trail network. Respectively, 46.5% and 39.5% of participants identified JNP and the trail network to be very important. This is not unanticipated because most of the participants were from outside of Jasper and had likely traveled to Jasper with the intentions of enjoying the mountain national park and using the extensive trail network. It does however also appear that a greater percentage of participants considered JNP to be more important than the trail network when it came to their overall enjoyment. Because a significant portion of the participants indicated being first time users of the trail network, it is possible that most of the importance for their trip was placed on simply being in the national park. Nonetheless the significance of both the natural beauty of the national park and use of the trails is further confirmed below in an examination of participant motivations for visiting JNP.

4.6.3 Attachment to Jasper National Park and Trail Network

Participant feelings of attachment to JNP and to the trail network were evaluated using a 7-point Likert scale (1=Strongly Disagree, 7=Strongly Agree). Participants reported slightly higher average feelings of attachment towards JNP (m=5.40, sd=1.49) compared to their attachment to the trails around the Town of Jasper (m=4.84, sd=1.56). Examination of responses

reveals a much more evenly spread set of responses for participant attachment to the trail network (See Table 12).

Table 12
Attachment to Trail Network and Jasper National Park

	StD n(%)	D n(%)	SD n(%)	N n(%)	SA n(%)	A n(%)	StA n(%)
Attachment to Jasper National Park	3(0.7)	31(6.8)	19(4.2)	69(15.1)	102(22.4)	91(20.0)	141(30.9)
Attachment to trails around the Town of Jasper	8(1.7)	47(10.3)	32(7.0)	103(22.6)	98(21.5)	90(19.8)	77(16.9)

NOTE: StD=Strongly Disagree; D=Disagree; SD=Somewhat Disagree; N=Neutral; SA=Somewhat Agree; StA=Strongly Agree

Twenty-two point six percent of participants reported neutral feelings of attachment towards the trails followed closely by 21.5% who somewhat agreed to having very strong feelings of attachment. In contrast, 30.9% of respondents strongly agreed to having very strong feelings of attachment to JNP followed by 22.4% who somewhat agreed and an additional 20.0% who agreed. The lower reported levels of attachment for the trails is to be expected because of the number of participants who had previously very little use of the trail system. Place dependence has been recognized as one component of place attachment. A strong sense of place dependence is governed by how well it is able to satisfy the needs or goals of an individual and also by how well a particular place compares to alternative sites that may be equally as effective at satisfying needs and goals (Warzecha & Lime, 2001). With limited exposure to the trail system in Jasper, it is quite possible that many of the participants have not yet managed to develop any place dependence. Providing an explanation for the higher reported levels of attachment to JNP is more difficult. A strong consensus exists that place attachments are social constructions. It is therefore possible that knowledge, beliefs and stories of a place (i.e., JNP)

have created attachments and bonds in individuals that have in fact had limited exposure or real experiences in the park. It has also been found that the strength of a person's connection is often influenced by the place's physical characteristics (Smaldone et al., 2005). In the case of JNP, participants may develop attachments to the mountain park because of the natural beauty of the landscape even with limited trail use.

4.6.4 Participant Motivations

Place attachment and motivations have also been linked. Kyle, Mowen and Tarrant (2004) found that as levels of motivation increased so too did the level of place attachment. Participants were asked to indicate the importance of 14 different motivations from very unimportant to very important. Responses to each of the 14 motivations are presented in Table 13.

Table 13
Visitor Motivations

	VU n(%)	SU n(%)	N n(%)	SI n(%)	VI n(%)
To develop my skills and abilities	57(12.7)	43(9.6)	136(30.2)	137(30.4)	77(17.1)
To have a stimulating and exciting experience	11(2.4)	7(1.5)	40(8.8)	160(35.4)	249(55.1)
To experience a Canadian Mountain national park	11(2.4)	7(1.5)	40(8.8)	127(28.0)	269(59.3)
To be with friends	30(6.7)	15(3.3)	90(20.0)	130(28.9)	185(41.1)
To be with people who enjoy the same things I do	18(4.0)	15(3.3)	57(12.5)	154(33.8)	211(46.4)
To enjoy the scenery	12(2.6)	1(0.2)	4(0.9)	51(11.2)	388(85.1)
To be close to nature	12(2.6)	1(0.2)	12(2.6)	76(16.7)	354(77.8)
To relax physically	10(2.2)	14(3.1)	43(9.5)	135(29.7)	253(55.6)
To experience fun	10(2.2)	9(2.0)	33(7.2)	150(32.9)	254(55.7)
To explore a new trail	16(3.5)	22(4.8)	48(10.6)	123(27.1)	245(54.0)
To use a familiar trail	88(19.5)	53(11.7)	154(34.1)	80(17.7)	77(17.0)
To exercise and challenge myself	19(4.2)	27(5.9)	48(10.6)	151(33.3)	209(46.0)
To avoid encounters with other trail users	126(27.8)	91(20.1)	168(37.1)	49(10.8)	19(4.2)
To escape my daily routine	21(4.6)	13(2.9)	45(9.9)	136(29.9)	240(52.7)

NOTE: VU=Very Unimportant; SU=Somewhat Unimportant; N=Neutral; SI=Somewhat Important; VI=Very Important

It was suggested above that people often develop place attachments because of the physical characteristics of the area. An examination of the motivations identified by participants clearly suggested that they were motivated by the physical characteristics of Jasper National Park. For example, 59.3% of participants said that it was very important for them to experience a Canadian mountain national park. An additional 28.0% said that the motivation to experience

a Canadian mountain national park was somewhat important. A majority of respondents reported enjoying the scenery (85.1%) and that it was very important (77.8%) for them to be close to nature. Such high levels of motivation to experience the natural landscape may be indicative of the relatively high levels of attachment to JNP indicated by participants. This however would require further research to determine for certain. Participants were also highly motivated to explore a new trail with 54.0% saying that it was very important, compared to only 17.0% who said exploring a familiar was very important. Conflict incidences are often connected to crowding and encounters with other trail users. It has also been found that people travel to and visit national parks such as Jasper National Park in an effort to get away and be in the quiet of nature. Although 52.7% said that it was very important for them to escape their daily routine only 4.2% said that it was very important for them to avoid encounters with other trail users. An additional 36.7% were neutral suggesting that they were indifferent to meeting other people, while 27.5% said that it was very unimportant to avoid encounters with other trail users. Pan and Ryan (2007) noted similarly low scores when it came to avoiding other users. One plausible explanation may be related to the area in which participants were surveyed. The trail network around the Town of Jasper is heavily used, and therefore participants may not have been seeking a solitary experience. Nearly half (46.4%) of respondents said that it was very important to be with people who enjoy the same things I do. This could be interpreted as meaning with family and friends, but also in meeting other individuals engaged in hiking and mountain biking on the trails around Jasper.

4.6.5 Encountering Other Trail Users

Participants were also asked about their preferences for using the trails, particularly as it related to encountering other trail users. Participants were asked to respond to the following

questions: (1) “I usually encounter more people than is desirable while using the trail network around the Town of Jasper”, (2) “I can easily substitute another location that satisfies my recreational needs for the trail network around the Town of Jasper”, and (3) “I am easily disturbed or irritated by the actions of others I encounter while participating in my outdoor recreational activity”. A 7-point Likert scale (1=Strongly Disagree, 7=Strongly Agree) was used for all three questions. Results are presented in Table 14.

Table 14
Encountering Other Trail Users

	StD n(%)	D n(%)	SD n(%)	Neutral n(%)	SA n(%)	A n(%)	StA n(%)
I usually encounter more people than is desirable	55(12.2)	83(18.4)	92(20.4)	102(22.7)	38(8.4)	66(14.6)	14(3.1)
I can easily substitute another location	35(7.8)	66(14.7)	67(15.0)	98(21.9)	65(14.5)	79(17.6)	38(8.5)
I am easily disturbed by the actions of others	83(18.2)	81(17.8)	159(34.9)	59(13.0)	20(4.4)	47(10.3)	6(1.3)

NOTE: StD=Strongly Disagree; D=Disagree; SD=Somewhat Disagree; N=Neutral; SA=Somewhat Agree; StA=Strongly Agree

The mean ($m=4.04$) for the second question in Table 12 suggests that most respondents had no real opinion when it came to substituting another trail in order to satisfy their needs. This is not unexpected given the number of people as previously mentioned who had had very limited prior use of the Jasper trail network. Question one above had a mean of 3.45 suggesting that for the most part participants do not typically encounter more people than is desirable. In fact only 3.1% strongly agreed, while 22.7% were neutral. Question three had the lowest mean score (2.81), suggesting that respondents using the trails around the Town of Jasper are not easily disturbed by the actions of others. Again, only 3.1% strongly agreed, meanwhile 34.9%

somewhat disagreed, followed by 18.2% who strongly disagreed. In another question, participants were asked to indicate from a list of seven different trail users, which was most likely to disturb them. The options included: Mountain Bikers, Dogs off Leash, Hikers/Walkers, Joggers, Horseback Riders, I have never been disturbed, and Other. Fifty-one point one percent of participants said that they had never been disturbed. Previous results indicating that respondents did not avoid encounters with other trail users and enjoyed being with other people doing the same thing that they were doing seems to support this finding. Dogs off leash were the most highly reported (20.0%) as likely to cause disturbance. This was followed by hikers/walkers (10.0%), mountain bikers (7.5%), and horseback riders (4.1%). A breakdown of disturbances according to activity engaged in is provided in Table 15. Results show hikers/walkers to be the most disturbed by a variety of other users, most importantly dogs off leash (n=54). The vast majority of hikers/walkers however, reported having never been disturbed (n=166). Cross-country mountain bikers also reported disturbance by dogs off leash (n=30) the most, but were otherwise equally impacted by the remaining activity groups. It is difficult to draw any conclusions from the other user groups because there were so few participants that identified belonging to these groups (i.e., jogging, dog walking). Additionally, participants were not recruited based on participation in these activities. Despite the existence of so few dog walkers, participants still considered themselves to be most disturbed by dogs off leash. Previous encounters with dogs off leash may have carried over to their current experience. However, it is also possible that general beliefs concerning dogs and where they should be allowed were also a factor. At least initially, these findings suggest that conflict may not be simply associated with number of people on the trails (i.e., crowding), but may be more deeply

rooted in behaviours (i.e., dogs off leash) and that these behaviours have the potential to carry over and negatively impact future outdoor recreation experiences.

Table 15
Disturbance According to Primary Outdoor Recreation Activity

While using the trails I am most often disturbed by?					
Primary Activity	Mountain Bikers	Dogs Off Leash	Hikers/Walkers	Horseback Riders	I Have Never Been Disturbed
Cross-Country Mtn Biking	5	30	7	6	52
Dog Walking	0	0	0	0	2
Hiking/Walking	25	54	38	8	166
Downhill Mtn Biking	2	3	0	3	5
Jogging	1	0	0	1	1
Total	33 (7.5%)	87 (19.6%)	45 (10.2%)	18 (4.1%)	226 (51.1%)

4.6.6 Behavioural/Situational Impacts on Enjoyment

In an effort to identify particular trail behaviours and/or situations that may negatively impact upon participant trail experiences while in Jasper, respondents were asked how much 12 different situations/behaviours would detract from or contribute to the enjoyment of their trail experience using a 5-bipolar point scale (e.g., Strongly Detract, No Effect, Strongly Enhance). Participants were also allowed to select 'Unsure/No Opinion'. The 12 situations/behaviours included: encountering many other users on the trails, seeing dogs off leash on the trail, exposed roots/wear on the trail (e.g., environmental damage), seeing others using unofficial trails. Pickering, Rossi, and Barros (2011) recognized environmental impacts from hiking and mountain biking (e.g., trail widening, vegetation damage, soil compaction, and erosion) as damage. Based on this understanding it is acceptable to classify wear on trails as a form of

environmental damage, even if caused by regular usage. Using unofficial trails was further clarified to mean unmarked trails not included on the Parks Canada trail map. Other situations/behaviours were excess noise caused by other trail users, witnessing disrespectful behaviour, encountering people participating in a different activity, encountering people with different environmental values, encountering people with different recreational values, experiencing a negative emotion as a result of an encounter with another trail user(s), experiencing a positive emotion as a result of an encounter with another trail user(s). Results are presented in Table 16.

Table 16
Situations/Behaviours and How They Effect Experience

	Strongly Detract n(%)	Somewhat Detract n(%)	No Effect n(%)	Somewhat Enhance n(%)	Strongly Enhance n(%)	Unsure/No Opinion n(%)
Encountering many other users	45(10.0)	262(58.4)	86(19.2)	36(8.0)	16(3.6)	4(0.9)
Dogs off leash	126(28.4)	143(32.2)	136(30.6)	19(4.3)	9(2.0)	11(2.5)
Exposed roots (environmental damage)	31(6.9)	149(33.1)	208(46.2)	33(7.3)	21(4.7)	8(1.8)
Use of unofficial trails	92(20.5)	193(43.1)	128(28.6)	9(2.0)	11(2.5)	15(3.3)
Excessive noise	171(37.9)	184(40.8)	77(17.1)	7(1.6)	4(0.9)	8(1.8)
Disrespectful behaviour	324(73.0)	92(20.7)	10(2.3)	4(0.9)	5(1.1)	9(2.0)
People participating in different activity	7(1.6)	32(7.2)	313(70.2)	60(13.5)	26(5.8)	8(1.8)
Different environmental values	78(17.5)	191(42.9)	124(27.9)	19(4.3)	5(1.1)	28(6.3)
Different recreational values	32(7.2)	105(23.5)	244(54.7)	33(7.4)	5(1.1)	27(6.1)
Experiencing negative emotion	95(21.3)	236(53.0)	72(16.2)	7(1.6)	1(0.2)	33(7.4)
Experiencing positive emotion	5(1.1)	9(2.0)	36(8.0)	152(33.9)	229(51.1)	14(3.1)
Personal goals interfered with	70(16.0)	238(54.5)	81(18.5)	12(2.7)	8(1.8)	28(6.4)

Fifty-eight point four percent of participants reported that encountering many other users on the trail would ‘somewhat detract’, followed by 19.2% who said that it would have ‘no effect’ on their trail experience. These numbers suggest that meeting too many people on the trails can

have the potential for negative consequences, and it is also apparent that sheer numbers (i.e., crowding) do not account for all incidences of reported user conflicts. Approximately 60% of respondents indicated that encountering dogs off leash would detract in some way from their experience. Although almost 70% said the same for encountering many other trail users, a greater percentage (28.4%) said that encountering dogs off leash would 'strongly detract' from their experience. An almost equal number of people (30.6%) indicated that dogs off leash would have 'no effect'. Perhaps the most interesting findings were found regarding 'witnessing disrespectful behaviour'. Seventy-three percent of participants said that this would 'strongly detract' from their enjoyment. An additional 20.7% said that witnessing disrespectful behaviour would 'somewhat detract' from their enjoyment. In comparison, earlier findings found that over 70% of respondents were not easily disturbed by the actions of others. This suggests that meeting other people only becomes an issue once the actions of others are perceived to be disrespectful in nature. Nuisance behaviours (e.g., Clark, Hendee, & Campbell, 2009) and inappropriate behaviours (e.g., Tumes, 2007) have been studied previously and Vaske, Needham, and Cline (2007) identified problem behaviours (e.g., being rude and discourteous or passing too closely). All studies seem to be recognizing the same kinds of behaviours, however, are operationalizing with a different label (i.e., inappropriate vs disrespectful behaviour). It may also be that respondents in the present study considered 'excessive noise caused by other trail users' to be disrespectful behaviour. Thirty-seven point nine percent felt that excessive noise would 'strongly detract', while 40.8% said that it would 'somewhat detract' from their enjoyment. Manning, Newman, Frstrup, Stack, and Pilcher (2009) standardized various levels of noise through sound recordings played back to participants. No similar approach was implemented here. A fairly high percentage of participants (63.6%) also felt that 'seeing others

using unofficial trails' would detract from their enjoyment in some way. Again, it may be that participants consider the use of unofficial trails to be a form of disrespectful behaviour.

'Encountering people with different environmental values' was viewed by 60.4% of participants to detract in some way, the largest percentage being 42.9% who said that it would 'somewhat detract'. Mistreating the environment may be perceived as disrespectful behaviour and a sign of differing environmental values. When asked if 'exposed roots/wear on the trail (e.g., environmental damage)' would detract from their enjoyment, 46.2% said 'no effect', followed by 33.1% who said that it would 'somewhat detract'. Although exposed roots and wear on the trail were defined as environmental damage, it is possible that some participants perceived exposed roots and wear as the result of normal, everyday use. Consequently, participants may enter a natural area with an expectation of seeing some trail wear. Careless or disrespectful behaviour is one potential cause of environmental damage and so it might be expected that a higher percentage of people would report seeing environmental damage as strongly detracting. Another explanation is that when people travel to highly visited locations such as Jasper National Park they expect some form of environmental damage (e.g., exposed roots/wear) and therefore there is reduced or no effect on their enjoyment. Earlier research by Jacob and Schreyer (1980) proposed that conflict occurred when people's personal goals were interfered with by the actions of others. When asked how 'having your personal goals interfered with' would impact upon their enjoyment of their experience 54.4% said that it would 'somewhat detract' while another 16.1% said it would strongly detract. This seems to offer at least some preliminary support for the proposition that goal interference is a factor that contributes to occurrences of user conflict.

In light of the findings that suggest that numbers (i.e., crowding) and actions of others, provided they aren't disrespectful in nature, do not appear to bother or detract from participants

enjoyment, it is not at all surprising that 70.2% of respondents felt that ‘encountering people participating in a different activity’ would have ‘no effect’ on their enjoyment. In fact over 19.0% felt that this would enhance their experience in some way. Similarly, 54.7% of respondents also felt that ‘encountering people with different recreational values’ would have ‘no effect’ on their enjoyment. However, 23.5% felt that this would ‘somewhat detract’.

4.6.7 Participants’ Jasper Trail Use Experience

Gifford (2002) defined crowding as “a personally defined, subjective feeling that too many others are around” (p. 175). The reader may recall from above that 68.4% of respondents said that encountering too many other people on the trail would detract from the enjoyment of their experience either somewhat (58.4%) or strongly (10.0%). In an effort to explore issues about crowding further, participants were also asked to indicate how many times they “typically encountered the following trails users while using the trail network around the Town of Jasper”: Hikers/Walkers, Horseback riders, Mountain Bikers, Joggers, and Dog Walkers. Respondents were given options of ‘never’, ‘1-2 times’, ‘3-4 times’, ‘5-9 times’ and ‘10+ times’. Table 17 reports study results.

Table 17
Encounters With Other Trail Users

	Never n(%)	1-2 Times n(%)	3-4 Times n(%)	5-9 Times n(%)	10+ Times n(%)
Hikers/Walkers	10(2.2)	58(12.9)	54(12.1)	53(11.8)	273(60.9)
Horseback Riders	247(65.7)	106(28.2)	17(4.5)	4(1.1)	1(0.3)
Mountain Bikers	89(21.8)	131(32.1)	80(19.6)	62(15.2)	46(11.3)
Joggers	187(48.8)	130(33.9)	44(11.5)	18(4.7)	4(1.0)
Dog Walkers	83(20.3)	139(34.1)	120(29.4)	50(12.3)	16(3.9)

It appears that the most frequently encountered user group was hikers/walkers. Sixty point nine percent of respondents said that they saw hikers/walkers 10+ times with 12.1% and 11.8% saying that they saw hikers/walkers 3-4 times and 5-9 times respectively. Horseback riders on the other hand were encountered far less often. Sixty-five point seven percent said that they ‘never’ encountered horseback riders and 28.2% said that they saw horseback riders only 1-2 times typically. This may have something to do with the locations where the data was collected. Although horseback riding is permitted on the surveyed trails, use by horseback riders is far less frequent compared to other trail users (e.g., hikers, mountain bikers). The number of times respondents reported seeing mountain bikers was quite spread out over the five possible response categories. Specifically, 32.1% encountered mountain bikers 1-2 times, followed by 12.8% who claimed to have never encountered any mountain bikers. Joggers were also less frequently encountered, with 48.8% never encountering any joggers. Thirty-three point nine percent only encountered hikers 1-2 times while using the trails around the Town of Jasper. Dog walkers were however more frequently encountered by trail users. Thirty-four point one percent saw dog walkers 1-2 times, 29.4% saw them 3-4 times and 12.3% saw dog walkers 5-9 times.

To develop a better understanding of the quality of respondents’ recreation experiences in Jasper and whether they had experienced conflict, they were asked three questions. Each of the questions asked respondents to indicate their level of agreement (1=strongly disagree, 7=strongly agree). The first, “I have experienced conflict on a trail in the past 30 days” was designed to determine if respondents, who had been using the trails in Jasper for multiple days or weeks had ever experienced conflict. The second, “I have experienced conflict today while on the trail” measured respondents’ current or immediate experience. Finally, “On average I am satisfied with my recreation experience on the trail network around the Town of Jasper” was

used to elicit people's satisfaction levels. These three questions are important because, when expectations and motivations are met, satisfaction occurs. Consequently, dissatisfaction may result when goals are unmet, crowding is perceived, personal and social norms are violated, or expectations are unmet regarding resource or experience quality (Fletcher & Fletcher, 2003). All four of these factors are invariably linked to occurrences and feelings of conflict. Findings are presented in Table 18.

Table 18
Conflict and Visitor Satisfaction

	StD n(%)	D n(%)	SD n(%)	N n(%)	SA n(%)	A n(%)	StA n(%)
Conflict past 30 days	309(71.2)	16(3.7)	64(14.7)	13(3.0)	7(1.6)	18(4.1)	7(1.6)
Conflict today	356(81.8)	6(1.4)	33(7.6)	13(3.0)	9(2.1)	16(3.7)	2(0.5)
Satisfied with experience	---	1(0.2)	---	11(2.4)	212(46.5)	79(17.3)	153(33.6)

NOTE: StD=Strongly Disagree; D=Disagree; SD=Somewhat Disagree; N=Neutral; SA=Somewhat Agree; StA=Strongly Agree

Results suggest that (1) respondents did not experience much conflict, and (2) were very satisfied with their experiences. Experienced conflict in the past 30 days and experienced conflict today on the trails, respectively, had mean scores of 1.65 and 1.47. In total 71.2% of respondents strongly disagreed that they had experienced conflict on a trail in the past 30 days. When asked about conflict today on the trails an even larger number (81.8%) strongly disagreed with fewer respondents (6.3%) agreeing in some form (i.e., somewhat agree, agree, strongly agree).

Based on the apparent lack of conflict experienced by respondents, it was found that people were on average ($m=6.11$) very satisfied with their experiences. Ninety-seven point four

percent of respondents agreed in some form (i.e., somewhat agree, agree, strongly agree) that they were satisfied, the largest percentage being 46.5% who somewhat agreed. Only one person disagreed that they were satisfied. This supports findings (Manning, 1999) that a very large percentage of outdoor recreation participants report high levels of satisfaction. Manning explains this phenomenon by suggesting that many of the natural and cultural features found in parks and natural areas can in fact “overpower” many of the other factors (e.g., resource settings, social settings, managerial settings, individual norms, values and preferences) that influence visitor satisfaction. Manning’s findings offer one possible explanation for the high reports of satisfaction. Because this study was not an in-depth examination of satisfaction, direct and definitive conclusions cannot be drawn.

4.7 Positive and Negative Emotions

One of the primary purposes of this research was to investigate the role that negative emotions play in people’s outdoor recreation experiences. In particular, to see if it is possible to better predict and understand occurrences of conflict based on the negative emotions that people are experiencing. Participants were asked if ‘experiencing a negative emotion’ would detract from their enjoyment. Fifty-three percent said that it would ‘somewhat detract’ and 21.3% said that it would ‘strongly detract’. The exact role of these negative emotions will be further analyzed later in the results. When asked about experiencing a positive emotion, not surprisingly, 51.1% said that it would ‘strongly enhance’ while 33.9% said that a positive emotion would ‘somewhat enhance’.

To investigate emotions further and to better understand people’s conflict experiences, respondents were asked to identify any and all of the positive and negative emotions they felt throughout their outdoor recreation experience. Participants were provided with a selection of 12

of the most common positive, and 13 of the most common negative, emotions as identified in the psychology literature on emotions (e.g., Russell, 1980, 2003; Watson, Clark & Tellegen, 1998).

The positive emotions included: happiness, joy, excitement, delight, pleasure, thrill, enjoyment, satisfaction, calmness, contentment, and relaxation (Table 19). The negative emotions included: tension, nervousness, stress, anger, depression, sadness, unhappiness, disgust, irritation, rage, anxiety, frustration and fear (Table 20). The reader will recall that one of the primary purposes of this research project was to introduce emotions to more accurately measure conflict.

Table 19
Positive Emotions Experienced

Positive Emotions	Reported Experienced n(%)	Experienced The Most n(%)
Happiness	355(77.5)	35(8)
Joy	243(53.1)	18(4)
Elation	119(26.0)	12(3)
Excitement	251(54.8)	27(6)
Delight	207(45.2)	18(4)
Pleasure	326(71.2)	64(14)
Thrill	187(40.8)	18(4)
Enjoyment	330(72.1)	96(21)
Satisfaction	303(66.2)	25(5)
Calmness	275(60.0)	28(6)
Contentment	247(53.9)	44(10)
Relaxation	329(71.8)	58(13)

Table 20
Negative Emotions Experienced

Negative Emotions	Reported Experienced n(%)	Experienced The Most n(%)
Tension	47(10.3)	15(3)
Nervousness	100(21.8)	58(13)
Stress	33(7.2)	7(2)
Anger	23(5.0)	3(.7)
Depression	2(.4)	—
Sadness	14(3.1)	7(2)
Unhappiness	8(1.7)	11(2.4)
Disgust	47(10.3)	25(5)
Irritation	110(24.0)	78(17)
Rage	3(.7)	—
Anxiety	38(8.3)	20(4)
Frustration	68(14.8)	36(8)
Fear	85(18.6)	33(7)

Seventy-seven point five percent (n=355) of respondents reported feeling happiness, 72.1% (n=330) reported feeling enjoyment, 71.8% (n=329) reported feeling relaxation and 71.2% (n=326) reported feeling pleasure. Participants were also asked to indicate the single positive emotion that they experienced the most. Enjoyment (n=96) was the most frequently identified positive emotion, followed by pleasure (n=64), relaxation (n=58).

Overall, participants identified feeling far fewer negative emotions during their outdoor recreation experience. The most frequently identified negative emotion was irritation (24.0%,

n=110). This was followed by nervousness (21.8%, n=100), fear (18.6%, n=85), and frustration (14.8%, n=68). When asked to identify the single negative emotion that they experienced the most, results were similar. Irritation (n=78) was again identified most often, followed by nervousness (n=58), frustration (n=36). A handful of participants also chose to identify emotions they had experienced that were not provided in the original list. They included pain, alert, exhaustion, deception, and heights each being identified once.

To better understand the effect or impact that these negative emotions can have on people's outdoor recreation experiences respondents were again asked to indicate their agreement (1=strongly disagree, 7=strongly agree) with four statements: "My outdoor recreation experience is ruined when I experience a negative emotion", "I usually stop participating in my outdoor recreation activity if the negative emotion is powerful enough", "I often change the activity I am participating in if the negative emotion is powerful enough" and "I often change the location of my participation if the negative emotion is powerful enough". These items were selected based on research (e.g., Miller & McCool, 2003; Mowen, Payne, & Scott, 2005); on the most common methods of coping people use when confronted with a negative recreation situation. These questions also gave participants the opportunity to reflect upon previous outdoor recreation experiences. There was no guarantee that participants would have experienced negative emotions or were required to make use of coping mechanisms during their current recreation experience. As a result, questions were structured to allow reflection. Results are presented in Table 21.

Table 21
Impact of Negative Emotions of Outdoor Recreation Experience

	StD n(%)	D n(%)	SD n(%)	N n(%)	SA n(%)	A n(%)	StA n(%)
Experience ruined	52(12)	80(18.5)	84(19.4)	109(25.2)	24(5.6)	79(18.3)	4(0.9)
Stop participating	96(22.3)	75(17.4)	107(24.9)	64(14.9)	35(8.1)	45(10.5)	8(1.9)
Change activity	84(19.6)	61(14.3)	92(21.5)	73(17.1)	39(9.1)	70(16.4)	9(2.1)
Change locations	45(10.5)	59(13.8)	58(13.6)	58(13.6)	85(19.9)	92(21.5)	31(7.2)

NOTE: StD=Strongly Disagree; D=Disagree; SD=Somewhat Disagree; N=Neutral; SA=Somewhat Agree; StA=Strongly Agree

Stop participating had the lowest average score ($m=2.98$) followed by a change in activity ($m=3.25$), experience being ruined ($m=3.39$) and change locations ($m=4.11$). Further examination of participant responses revealed that most people were neutral or disagreed in some form. Twenty-five point two percent of respondents were neutral when it came to a negative emotion ruining their experience with greatest number of people (49.9%) disagreeing in some form. Four people strongly agreed that a negative emotion would ruin their experience. Twenty and a half percent of the respondents agreed in some form (i.e., somewhat agree, agree, strongly agree) that a negative emotion would cause them to stop participating. A few more respondents (27.6%) agreed in some form that they would change their activity. Twenty-one and a half percent of participants agreed and 19.9% somewhat agreed that they would change locations if the negative emotion was strong enough. Overall, these findings suggest that negative emotions could elicit significant changes in people's participation. Earlier, participants had identified that experiencing a negative emotion would somewhat detract (53.0%) and strongly detract (21.3%) from the enjoyment of their experience. It would appear that if the detractions were strong enough, people might resort to changing locations as a means of coping.

In general, several preliminary conclusions can be taken from the initial findings presented above. First and most importantly, participants did not appear to experience conflict and reported relatively high levels of visitor satisfaction. Second, there is consistent agreement among participants that dogs off leash is the most dominant cause of recreation experience issues and therefore most likely to detract. Next, that crowding and encountering other trail users may not be as central to a negative experience as is visitor behaviours; not just any behaviour, it appears as though individual actions must be judged to be disrespectful in some manner (i.e., excessive noise, damaging/disrespecting the natural environment). Finally, that people experience a wide assortment of positive and negative emotions during their recreation experience and that negative emotions appear to have the ability to adversely affect a person's experience causing them to engage in coping behaviours (e.g., change locations). Continued analysis of participants' conflict experiences and the role of emotions are investigated through participant qualitative responses.

Results

Qualitative Analysis of Emotional Causes and Participant Conflict Definitions

4.8 Introduction

The reader will recall in the previous chapter participants were asked to indicate which of the following positive emotions—happiness, joy, excitement, delight, pleasure, thrill, enjoyment, satisfaction, calmness, contentment, and relaxation—and which of the following negative emotions—tension, nervousness, stress, anger, depression, sadness, unhappiness, disgust, irritation, rage, anxiety, frustration and fear—they experienced while using the trail system around the town of Jasper. Participants were also asked to indicate whether they had experienced outdoor recreation conflict in the past 30 days while participating in a recreation activity outdoors, and also whether they had experienced conflict on the trails that day while in Jasper National Park. Although this information was found to be quite interesting, the incorporation of qualitative information can be very effective at providing more detailed understanding. As a result participants were asked to indicate using words and/or sentences that described the causes of both their positive and negative emotions. Similarly, they were asked to provide their personal understanding or definition of outdoor recreation conflict. The intent of these open-ended questions was to develop a better understanding of the exact causes of their particular emotions, while also being able to comprehend how outdoor recreation participants recognize and define user conflicts. Responses for each of the three questions were content analyzed and open-coded for themes (Patton, 2002). As Patton said, “...content analysis is used to refer to any qualitative data reduction and sense-making effort that takes a volume of qualitative material and attempts to identify core consistencies and meanings” (p. 453).

4.9 Causes of Positive Emotion

A total of 430 participants responded to the question, “Please describe the most common cause of this positive emotion”. This represents a response rate of 93.5%. The first round of content analysis discovered five primary or broadly based categories within the data. These categories were labelled as: Nature/Scenery, Getting Away, Activity/Exercise, Friends, and Other (Table 22).

4.9.1 Nature/Scenery

Further data reduction occurred and the Nature/Scenery category became more clearly defined by three new themes. Again, these were labelled as Views of Nature, Beauty of Nature/Surroundings, and the last that was called Being “There”. Although each of these themes was overall characterized by their common appreciation for the natural wilderness of Jasper National Park, each was also slightly different, reflected in participant statements and therefore deserving of separate themes. For example, participant responses categorized under ‘Views of Nature’ clearly reflected the sentiments of participants who had seen something truly amazing. Responses that were grouped under ‘Beauty of Nature/Surroundings ranged from generalized statements to more specific comments that highlighted certain characteristics of the environment. These statements nonetheless highlighted the beauty of nature/surroundings as did the more general statements and therefore were kept together as one theme.

Table 22
Identified Causes of Positive Emotions

Participant Identified Causes of Positive Emotions											
Category	Nature/Scenery			Getting Away			Activity/Exercise				
Sub-Category	1	2	3	4	5	6	7	8	9	10	11
Examples	<i>Grandeur of the views</i>	<i>Beautiful surroundings</i>	<i>Being in the outdoors</i>	<i>Just getting away from work</i>	<i>Being outdoors/away from city noise etc</i>	<i>Freedom New experiences</i>	<i>Sport activity</i>	<i>Fast downhill technical</i>	<i>Many outdoor activities and lots of open space</i>	<i>Physical activity in beautiful surroundings</i>	<i>Beautiful scenery, energy from exercise, being with friends</i>
	<i>The breath taking views</i>	<i>Outdoor beauty Sun, bird song, fresh air</i>	<i>To be in nature Being outside</i>	<i>Being away from work</i>	<i>To be outdoors, in the nature far from towns</i>		<i>Hiking</i>	<i>Going fast in the trail</i>		<i>Getting exercise while enjoying the scenery</i>	
# of Responses	85	111	68	16	20	3	15	29	9	33	7

NOTE: Sub-Categories are labeled as follows: 1=View of Nature; 2=Beauty of Nature/Surroundings; 3=Being “There”; 4=Stresses & Work; 5=Away with Nature; 6=Endless Possibilities; 7=Being Active; 8=Adrenaline/Challenge; 9=Getting Away/Access; 10=Activity & Nature; 11=Activity, Friends, & Nature

Table 23
Identified Causes of Positive Emotions Continued

Participant Identified Causes of Positive Emotions					
		Friends		Other	
Sub-Category	1	2	3	4	
Examples	<i>Being in nature with my family</i>	<i>Recreation and the people we are with</i>	<i>I feel peaceful</i>	<i>Just to be close to God and nature</i>	
	<i>Pleasure to be all together as family in such a nice surrounding</i>	<i>Exercise, companionship</i>	<i>Quietness</i>	<i>Being in nature is healing – close to God!</i>	
			<i>Peace and stillness</i>	<i>God's handywork</i>	
# of Reponses	13	2	11	6	

NOTE: Sub-Categories are labeled as follows: 1=Friends & Nature; 2=Friends & Activity; 3=Peace/Oneness; 4=God/Religion

The final theme under the Nature/Scenery category was called Being “There”.

Although it is clear that from the previous statements of participants that they were also “there” in Jasper National Park, the statements under this theme truly highlighted the fact that the participants felt that it was actually being “there” that was the most influential in creating their positive emotion. Again, the statements may reflect the beauty of nature as did the comments presented above, but they were prominent enough that it was believed that these participants were eluding to more than just the beauty of the area or a specific element (e.g., water). Some other relevant examples included: “I am just happy to be in the nature and to be able to enjoy and to get a feeling of it and to be lucky to see animals”, and “Realization of how fortunate I am to be here, able to walk, see, hear, smell so much beauty”. It seems apparent that participants experienced and attributed many of their positive emotions to the beauty of nature, its breathtaking scenery, specific attributes of nature, as well as simply being “there”. These comments may also lend support to the contentions made by Manning (1999) that many of the natural and cultural features found in parks and natural areas can in fact “overpower” many of the other factors (resource settings, social settings, managerial settings, individual norms, values and preferences) influencing visitor satisfaction.

4.9.2 “*Getting Away*”

“Getting Away” was the next broad category that was initially discovered during the first round of content analysis. Further inductive analysis, or the “...discovering patterns, themes, and categories in one’s data” of this category resulted in the creation of three separate themes: Stresses and Work, Away with Nature, and Endless Possibilities (Table 22). Participants commented that they felt positive emotions or that their positive emotions were created because they were able to get away from life stresses and work.

Participant comments under the 'Away with Nature' theme were reflective of people who felt positive emotions because they were able to get away from life and the city and escape to nature. These comments did not reflect leaving stress or work behind. The final theme called 'Endless Possibilities' was small with only three responses. This theme was created because the responses seemed to group well together and did not fit well into the other themes. The statements simply captured the notion that these people experienced positive emotions because they had freedom to do the things they wanted.

4.9.3 Activity/Exercise

The activity/exercise category was further separated into five more specific themes. The themes included: Being Active, Adrenaline/Technical, Activity and Nature, Activity, Friends and Nature, and Getting Away/Access. This wide variety of statements suggests quite strongly that physical activity and exercise was responsible for many of the positive emotions that they experienced while using the trails in Jasper National Park (Table 22).

Comments in the 'Being Active' theme were short and reflected the fact that participants felt positive emotions by simply being active. In comparison, participants whose comments were grouped into the 'Adrenaline/Challenge' theme were more specific and often described a feeling directly connected to being physically active that offered a certain level of excitement or challenge that was responsible for their positive emotions. Some other pertinent examples included: "Biking down hard terrain and challenging myself", "Roots, hills, challenging climbs, pushing myself", and "Exercise, adrenaline, excitement", "High heart rate". The 'Activity and Nature' theme was different from the other two previously mentioned themes because participant comments here made a clear connection between being active, doing some physical and being out in the outdoors experiencing nature (e.g., "Participating in activities in a beautiful

environment”). The next theme, ‘Activity, Friends, and Nature’ was very similar to the previous theme although these participants made direct reference to being with friends or loved ones.

This was classified as a separate theme because it seemed clear that being with friends and loved ones was partly responsible for the positive emotions that were experienced. Nature and activity were not the sole causes of participants’ felt emotions. A few participants also made reference to physical activity and it allowing them to get away or happy that they had such a great area within easy reach. This theme was called ‘Getting Away/Access’.

4.9.4 *Friends*

Friends and family were mentioned a number of times in participant comments with regard to their causes of the positive emotions. The initial category of ‘Friends’ was later separated into the theme of ‘Friends and Nature’ and ‘Friends and Activity’. The reader will recall from above that a separate theme called ‘Activity, Friends and Nature’ was created out of the ‘Activity/Exercise’ category. The ‘Friends and Nature’ theme is however quite different because participant comments emphasized being with friends and loved ones (Table 23). Only two participant responses comprised the ‘Friends and Activity’ theme. They made no mention of the natural environment and therefore could not be classified under the theme ‘Activity, Friends and Nature’.

4.9.5 *Other*

The final category was initially called ‘Other’ because there were relatively few comments that were not able to be classified into any of the other previously created categories. Continued analysis of the responses in the ‘Other’ category revealed two possible themes: Peace/Oneness and God/Religion (Table 23). The God/Religion theme, although often making reference to nature was kept separate because it was believed that the dominant factor

contributing to participant positive emotions was the element of God and not just the element of nature as mentioned in the Nature/Scenery section above.

4.10 Causes of Negative Emotions

A total of 303 participants responded to the question, “Please describe the most common cause of this negative emotion” representing a response rate of 66%. It is not surprising that fewer people provided responses to this question because fewer participants indicated having experienced negative emotions. The first round of content analysis discovered seven primary or broadly based categories within the data. These categories were labelled as: Other Users, Access, Weather, Safety, Failing or Challenging Myself, Don’t Know/N/A/Not Experienced, and New Activity (Table 24).

Table 24
Identified Causes of Negative Emotions

Participant Identified Causes of Negative Emotions											
Categories	Other Users				Access		Safety		Failing/Challenging	Weather	N/A
Sub-Categories	1	2	3	4	5	6	7	8	9	10	11
Examples	<i>Seeing damage to the natural environment</i>	<i>Overcrowding Too many people using the same path for different activities</i>	<i>Seeing unsafe use of the trails People acting disrespectfully (noisy, disrespectful signage)</i>	<i>Horseback riders and horse shit Horses – the smell, dropping trails when it rains</i>	<i>Riding a trail for the first time Concern regarding the unknown if on a new trail</i>	<i>Restricted access Closure of pathway</i>	<i>Loose gravel, rock with steep decline Fear of falling/heights on some hikes, not yet experienced in Jasper</i>	<i>Might come across bear Encounter with wildlife</i>	<i>Not being able to accomplish something I am worried that I will crash my bike</i>	<i>Poor weather experience Rain Rain and clouds</i>	<i>No negative emotions We had no negative emotions</i>
# of Responses	59	21	59	6	36	7	24	59	21	7	15

NOTE: Sub-categories are labeled as follows: 1=Garbage/Disrespecting Environment; 2=Crowding; 3=Disrespectful Behaviour of Others; 4=Horses/Riders; 5=Unknowns Regarding Trail; 6=Restricted Access; 7=Environmental Dangers; 8=Encountering Animals; 9=Failing or Challenging Myself; 10=Weather; 11=Don't Know/N/A/Not Experienced.

4.10.1 “Other Users”

The ‘Other Users’ category was by far the largest with the most participants indicating that other users were responsible for the negative emotion(s) that they experienced. Additional content analysis of this category was able to discover four separate themes namely: Crowding, Garbage/Disrespecting Environment, Disrespectful Behaviour/Behaviour of Others, and Horses/Riders (Table 24).

A large number of participants left comments reflecting their concern for garbage/disrespecting the environment. It was clear from responses that a number of people visiting Jasper National Park had concerns about the manner in which other users of the park were treating the environment and that witnessing these disrespectful acts or seeing garbage left behind resulted in negative emotional reactions. Some other pertinent examples included: “It worries me to see this wonderful place destroyed by human stupidity and lack of concern”, and “The irritation comes from human disrespect for the future of the parks that is sometimes seen”.

The other sub-category or theme, disrespectful behaviour/behaviour of others is different from the previously mentioned theme because responses are not reflective of disrespectful behaviours towards the environment specifically, rather, refer more generally to behaviours or actions of others that were viewed as disrespectful in some other manner. Crowding represented the next theme of participant responses. Previously, results suggested that visitors were accepting of meeting other trail users, however comments here reinforce that crowding continues to be a problem for a small percentage of the users in this study.

The reader will recall that earlier it was revealed that 81.8% of participants strongly disagreed that they had experienced conflict that day on the trail. Despite this, participants were still able to quite clearly identify specific causes of their negative emotions. Most interesting is

the fact that crowding, disrespectful behaviours and disrespect towards the environment (often a reflection of differing environmental values) are all regarded as root or common causes of outdoor recreation conflict occurrences. A couple of explanations are possible. Although it was theorized that the experiencing of negative emotions constituted the experiencing of conflict, it is possible that participants did not make this connection while completing the questionnaire. In fact, the questionnaire does not explicitly make that connection, and instead asks respondents in separate sections of the questionnaire to identify causes of negative emotions, and later their definition of outdoor recreation conflict. Finally, it is also possible that actual manifestations of conflict are overstated (Reis & Higham, 2009) and that a certain magnitude of emotional reactions needs to be attained before negative emotions are actually associated with or as conflict. Interview participants eluded to this suggesting that as emotional intensity increased (e.g., to the point of being angry at someone), the less aware they would be of the reasons for the anger.

A few select participants singled out horses and horseback riders as the causes of their negative emotions. Although these comments could have been classified as disrespectful behaviour/behaviour of others, because these participants directly mentioned a specific user group, it was deemed worthy of a separate theme. Nonetheless, these comments do appear to reflect the fact that these particular respondents consider horses and/or the actions of horseback riders to be disrespectful in some way.

4.10.2 Access

The broad category of access was split into the two themes, 'Unknowns Regarding Trail/Environment' and 'Restricted Access', following an additional round of content analysis. This theme clearly reflects some uncertainty on the part of participants that not only may have

limited their access but also created a variety of negative emotions. Participants distinguished the former access issues with those that they attributed to management. A powerful and pertinent statement by one user was especially noteworthy: “The restriction put on the use of some trails during certain periods as the results of “manipulated” scientific studies”, as was this by another participant, “When I see wealth trying to limit access”. Comments such as these appear to reflect a misunderstanding or misguided perception of the purpose of parks and protected areas and the many inherent challenges involved with balancing use and preservation. Restricting access is unfortunately being taken personally, when in reality restrictions to access are likely motivated by ecological concerns. Their comments may also reflect a form of privileged access (Freudenberg, 2005), whereby, the participant sees land being set aside for use by those individuals with the financial means or status to warrant access.

4.10.3 *Safety*

There were a large number of participants that expressed concerns of safety as their causes of negative emotions. Content analysis later divided this category into two themes, ‘Environmental Dangers’ and ‘Encountering Animals’.

For environmental dangers participants expressed concerns about navigating or participating on difficult terrain; terrain that because of the features (e.g., rocks, loose gravel, steep hills, etc) presented challenges and was interpreted as a potential danger or threat to personal safety. Participants’ “threat” concerns seem largely derived from an unfamiliarity with Jasper and the terrain of the trails; a certain uncertainty that may have created the perception of greater personal risk. Participant comments (Table 24) recognize the terrain as the major problem, however, there is no way to fully know what participants were thinking while hiking or biking on the trails. Biking on steep terrain represents a much greater safety risk, and therefore

participant comments may also be reflective of the biking participants and not necessarily the hiking participants. Conversely, participant concerns for animals were captured in their comments; the dominant concern was for encountering bears or other animals that they perhaps had never met.

4.10.4 Failing or Challenging Myself

Further content analysis of this category did not unearth any additional or separate themes. There were only 21 participants whose comments were reflective of the notion of failing at a challenge and/or challenging myself. Participants expressed awareness of their physical limitations that may have resulted in failure to accomplish a particular goal.

4.10.5 Don't Know/N/A/Not Experienced

There were approximately 10 participants that actually indicated that they had not experienced any negative emotions.

4.10.6 Weather

Finally, a small group of participants indicated that the weather was the cause of their negative emotions. Only seven responses were collected concerning weather. Examples are shown in Table 24.

4.11 Participant Definitions of Outdoor Recreation Conflict

One of the primary purposes of this study was to expand and re-conceptualize the current definitional understanding of outdoor recreation conflict. An important step in developing a better understanding of outdoor recreation conflict is to know what actual participants consider to be conflict. Statistical results so far have revealed that most participants in this study did not experience any conflict while using the trails in Jasper National Park. However, results from the qualitative analysis of participant responses to causes of their negative emotions showed strong

correspondence between currently understood causes of conflict (e.g., crowding, different environmental values). To better explore participant understanding of conflict, they were asked, “Based on your previous experience how would you describe or define outdoor recreation conflict?”. A total of 349 participants provided responses to this question representing a response rate of 76%. Initial classification of participant responses resulted in four distinct categories: No Experience/No Conflict, Inappropriate/Disrespectful/Discourteous Behaviour, what was called “People are Different” and Crowding Related (Table 25).

Table 25
Participant Definitions of Outdoor Recreation Conflict

Participant Identified Definitions/Descriptions of Outdoor Recreation Conflict						
Category	No Conflict	Inappropriate Behaviour		Crowding	People are “Different”	
Sub-Category	1	2	3	4	5	6
Example	<p><i>Never had any conflict on the trails</i></p> <p><i>Not experienced</i></p> <p><i>I have never experienced any conflict</i></p>	<p><i>Thoughtless or inconsiderate actions</i></p> <p><i>Lack of respect for type of activity</i></p> <p><i>Encountering use of space in a way I disapprove of</i></p>	<p><i>I get angry with other people when they don't respect the environment e.g., throwing garbage, cig butts etc on the ground, not using garbage bins</i></p> <p><i>For me conflict occurs as people do irreparable damage to the backcountry</i></p>	<p><i>Busy trails</i></p> <p><i>Many activities using the same paths or areas</i></p> <p><i>Competing for trail space</i></p>	<p><i>Conflict arising from people having different opinions on how the trails/park should be used</i></p> <p><i>People with different ideas of how the trails should be used and by whom</i></p>	<p><i>People have different needs that may cause a conflict e.g., solitude vs loud interaction</i></p> <p><i>People have different expectations and backgrounds and choose to come to Jasper for different reasons...</i></p>
# of Responses	103	115	54	51	8	18

NOTE: Sub-Categories are labeled as follows: 1=No Experience/No Conflict; 2=Inappropriate/Disrespectful Behaviour; 3=Environmentally Irresponsible; 4=Crowding; 5=Different Values; 6=Different Groups

4.11.1 No Experience/No Conflict

It was not unexpected that a significant number of participants actually indicated that they had little to no experience with conflict and/or had never experienced conflict based on indications from earlier statistics that nearly all participants had not experienced conflict. The hope however was that participants, regardless of whether they experienced conflict on that particular day, would still provide feedback based upon other experiences using trails inside or outside of Jasper National Park. Responses from participants who provided a definition or description of conflict were separated into three categories. A summary of the results is provided in Table 25 with additional discussion below.

4.11.2 Inappropriate/Disrespectful/Discourteous Behaviour

Initial content analysis discovered a category that was labelled, inappropriate/disrespectful behaviour. Additional content analysis resulted in two final themes suggesting that quite a few of the participants describe or define conflict as, Inappropriate/Disrespectful Behaviour and Environmentally Irresponsible. A total of 169 provided feedback describing conflict as directly linked to inappropriate or disrespectful behaviour. This represented the greatest proportion of feedback and is therefore quite suggestive that conflict may be closely or entirely related to the actions of others when they are perceived to be inappropriate in nature.

Participants' comments describing conflict as inappropriate/disrespectful behaviour are presented in Table 25. A few additional relevant comments are also provided: "Conflict which occurs when recreational experiences/activities are misused/abused by others", "I have to compromise what I've planned to do because of the choices made by others. My recreation is spoiled by the actions of others", "Recreation conflict – when other users don't follow the

rules/guidelines that have been established for a particular area”, and “Someone hogging up the trail, or being unmindful about the speed in which they are traveling (bike), Recklessness, carelessness, hurting the environment”. Two participants actually made reference to confrontations in their descriptions, “A conflict between 2 or more people or parties when 1 group does something to upset the other and causes some sort of altercation” and “If somebody would get angry at me because I’m riding too fast on the trail”.

Participants also defined or described conflict as being more specifically connected to behaviours that harm the environment. These responses were classified as ‘environmentally irresponsible’ (Table 25). Two other notable comments were, “People don’t respect animals and plants. Animals should be respected more as wild and dangerous”, and “For me, it is a simple matter of respecting the environment and cleaning up after oneself. Those who choose not to should think twice about choosing an outdoor activity more suited to their behaviour”.

4.11.3 Crowding

Crowding was a common concern and many participants described/defined conflict as being directly related to crowding. This has been supported in the literature (Manning, 1999 & Payne & Nilsen, 2002) and even been suggested that crowding is a specialized form of outdoor recreation conflict. This theme was characterized by comments such as, “Usually the difficulty of managing limited resources (in terms of space, viewpoints etc) in the presence of a number of trail users”, and “Sometimes we have the feeling that there are too many people on the trails and that sometimes causes the feeling of stress because you can’t stop at a place for a long time and fully enjoy it as solitude”.

Perhaps the most interesting aspect of these conflict description/definitions is how well they parallel the comments made by participants regarding the causes of their negative emotions.

Three of the most commonly reported causes were those classified under the themes, 'Disrespectful Behaviour/Behaviour of Users', 'Garbage/Disrespect Environment' and 'Crowding'. These commonalities between causes of negative emotions and descriptions of conflict appear to lend preliminary support to the connection between negative emotions and conflict and additionally the possibility of being able to utilize reported negative emotions to assess occurrences (i.e., frequency, magnitude) of outdoor recreation conflict.

4.11.4 "People are Different"

The final category of descriptions/definitions of conflict was called "People are Different". These responses were particularly interesting because they acknowledged that people are in fact different, particularly when it comes to their personal values and beliefs. Although one may infer the existence of these different values/beliefs in some of the comments classified under 'Environmentally Irresponsible', comments classified under "People are Different" made more of a direct reference to the existence of these types of differences. It should be noted that this category was later, after additional content analysis split into two themes: Different Values and Different Groups. The last theme, called 'Different Groups' does not specifically highlight differing values, but simply acknowledges that conflicts arise because people are different from one another. These types of differences in values/beliefs and types of users have been recognized as important managerial considerations and factors related to conflict occurrences (See Jacob & Schreyer, 1980). Management frameworks such as the Recreation Opportunity Spectrum (ROS) offer potential solutions to these types of "difference" issues (See Payne & Nilsen, 2002).

When compared with previous research, the above findings show strong consistency. The dominant causes of positive emotions were nature, physical activity, and being with friends

and family. The positive psychological and physical benefits of nature have been well documented (e.g., Leahy, Shugrue, Daigle, & Daniel, 2009). The role of leisure and physical activity for rejuvenation, stress relief, and general improvements in cardiovascular health is also well understood (e.g., Trenberth, 2005), as is the need for and significance of personal relationships developed and maintained through leisure (e.g., Boniface, 2006). The findings regarding inappropriate/disrespectful behaviour are noteworthy because it appeared as both causes of negative emotions as well participant descriptions of conflict. The study of unacceptable behaviours and conflict is not new (e.g., Carothers, Vaske, & Donnelly, 2001, and Vaske, Dyar, & Timmons, 2004). More recently Schuster, Hammitt, and Moore (2006) examined “hassles” for which they found that litter, noise, damage to the resource, and too many people at campsites to be the most frequently reported causes. All of this serves to reinforce the validity of current findings because (1) inappropriate/disrespectful behaviours appear to be perceived by visitors as conflict, and (2) that negative emotions may be the result of experiencing/witnessing such behaviours.

Analysis of expert review feedback of the proposed conflict scale items is next, followed by a statistical look at emotions and their ability to predict conflict occurrences along with examination of the validity and reliability of the proposed emotions-based outdoor recreation conflict scale.

CHAPTER FIVE

Scale Development: Expert Reviewer Feedback

5.1 Theoretical Background

Previous research has suggested that the leisure experiences are dynamic and multi-dimensional (Hull, Stewart, & Yi, 1992; Lee, Dattilo, & Howard, 1994; Lee & Shafer, 2002) and includes positive as well as stressful or unpleasant experiences. Specifically, Lee and Shafer noted that recreationists' emotions fluctuated depending on the types of situations encountered. More importantly, Hull et al. (1992) recognized the relevance of emotions, moods, and other affective feelings for leisure research with Hull (1991) identifying mood as specific subjective feelings that are "one of the more relevant products of leisure management efforts" (p. 249). Unfortunately, there is limited information in the leisure literature that identifies what emotions occur and why (Lee & Shafer). Using emotions to understand of user conflict seems, however, to be a vital step that has thus far been largely overlooked.

Research by Russell (1980; 1999; 2003) and Russell and Snodgrass (1987) in psychology and Vitterso, Chipeniuk, Skar, and Vistad (2004) in the leisure literature have attempted to study people's emotions. Russell (1980) proposed a bipolar two-dimensional circular model of affect measured using pleasure-displeasure and activation-deactivation. Work by Russell and Snodgrass and Russell and Barrett (1999) identified affective/cognitive appraisals and distinguished between people's emotions and their core affect. A multi-item three dimensional scale was theorized to conceptually represent the emotional component of people's outdoor recreation conflict experiences

5.2 Item Development

Thirty-six items were generated for possible inclusion in the scale. The items were developed based on the psychological literature on emotions (e.g., Russell, 1980; 1999; 2003) and the outdoor recreation literature on conflict (e.g., Manning, 1999, Carother, Vaske, & Donnelly, 2001, and Vaske, Dyar, & Timmons, 2004). They were developed to reflect emotional reactions to conflict experiences based on three identifiable components of emotional responses (i.e., cognitive appraisals, emotions, and core affect). Emotional words used by Watson and Clark (1994) in their development of the Positive and Negative Affect Scales (PANAS) were used as a guide for selecting relevant and empirically tested words. To the best of my knowledge no previous research had attempted to create emotion-based conflict items and therefore each of the 36 items was created independently based on the requirement that items measure one specific domain or dimension (i.e., appraisal, emotion, core affect).

5.3 Expert Reviewers

Following scale development procedures of Dunn, Bouffard, and Rogers (1999), a panel of expert reviewers were enlisted to assist with the assessment of each items item content-relevance – “...the degree to which the content (or subject matter) contained within a test item is representative of the ‘targeted construct’ that the item is designed to measure” (p. 16). This is an important step, particularly when developing a new, previously untested measure, unfortunately “...attempts to assess the content-relevance ratings provided by expert judges are not commonplace in the literature” (p. 17). Following ethics approval ten prospective reviewers were contacted to determine their willingness and availability to participate in the review process. Although the exact number of reviewers that is required or recommended is somewhat arbitrary, a minimum of five has been suggested based on statistical grounds (Dunn et al.). Each

of the reviewers possessed a PhD in recreation or a related field, had worked in either or both a professional capacity in parks management or as a university professor, and had previously published in internationally recognized journals in the areas of outdoor recreation. Several of these reviewers are considered to be among the foremost experts in the areas of recreation resource management. Highlighting the qualifications of the expert reviewers and providing justification for their selection is important and necessary according to Dunn et al. Their academic background and theoretical knowledge in the areas of outdoor recreation made them primary candidates to serve as expert reviewers. Each reviewer was e-mailed an information letter detailing the purpose of the study and their involvement. Reviewers also received a copy of the assessment document containing review instructions, definitions/explanations of each domain/dimension, and the list of 36 items. Following two rounds of attempts to contact the reviewers, only four agreed to participate. The hope was to retain the minimum of five recommended reviewers. The four reviewers were utilized as it was believed that they would still provide valuable feedback regarding the item content-relevance of the proposed items.

5.4 Scale Assessment Procedures

In order to evaluate item content-relevance reviewers must understand “...the domain of content that the items are intended to measure” (Dunn et al., 1999, p. 23). Reviewers were provided with the following descriptions:

Core Affect: Measured by looking at people’s sense of pleasure-displeasure, tension and relaxation, and even depression and elation. Core affect is represented specifically by our changing feelings of pleasure-displeasure and activation-deactivation. Person may become extremely frustrated (*displeasure*) and simultaneously become more *active* (i.e., no longer as calm or relaxed as they previously were). A person is always in some state of core affect. A

person may enter a recreational experience in a particular mood state (i.e., core affect). An item designed to measure this might read, “I felt happy at the start of my recreational experience”. The intensity (i.e., heightened level of displeasure and tension) is likely to increase when experiencing a negative emotional episode such as recreation conflict. An item signifying this change might read, “I became increasingly anxious throughout my recreational experience”. Core affect that is stable for a prolonged period is defined as a person’s mood. Conflict or a negative emotional episode would begin when an abrupt change in the core affect occurs in response to an unwelcome event.

Emotions: Quite simply these are the specific feelings that one experiences/feels. For example, these might include those feelings of being angry at someone, or frustrated by the actions of another person while hiking on the trail. In general, this reflects the realization that you have a specific emotion that is directed at someone or something. This differs from appraisals, which go further by providing the context for the negative emotion. For example, you may be angry at someone (e.g., emotion) and then be angry at them because of something specific that they did or did not do (e.g., appraisal). An example of an emotional item might read, “I was angry at a group of cyclists”.

Affective/Cognitive Appraisals: Represent how we interpret other people, places, events and things, and as such make a judgment about its attractiveness or repulsiveness. Specifically, affective/cognitive appraisals are those judgments concerning the capacity of the appraised object to alter our mood. These are our attributions, the way we mentally or cognitively make sense of the situation/event occurring around us and the impact that it is having on our mood or affective state. It permits us to be aware of our mood or emotional state. A person will become more aware of their emotions through appraisals by assigning a context or a source as the cause

of their specific emotions. Such sources may include the behaviours of other people, the condition of the natural environment, etc. An example of an appraisal item might read, “I was angry at a group of cyclists because of their reckless behavior on the trail”.

Reviewers were asked to independently rate the degree to which the item matched the content of each of the three dimensions. A 7-point unipolar scale (1=very poor fit to 7-excellent fit) was used. The exact procedure followed that employed by Dunn et al. Protocol ensured that reviewers were “blind” to the intended item-domain matches reducing the likelihood of reviewer bias. Reviewers were also asked to provide qualitative feedback to explain or justify their quantitative rating of each item. This gives the item writer “...the opportunity to understand why the judges may have chosen the quantitative item-ratings they provided on their respective rating scales...” and may alert the researcher to problems regarding a particular reviewers’ expertise (Dunn et al., p. 30).

5.5 Quantitative Assessment Findings

Following protocol used by Dunn et al., two statistical procedures were used to evaluate reviewer ratings: Aiken’s (1985) item content-validity coefficient (V) and Cohen’s (1977) effect size (ES) index. According to Dunn et al., “Aiken’s (1985) content validity coefficient allows the researcher to test the statistical significance of judges’ ratings for the construct (i.e., domain specification) that each item is designed to measure” (1999, p. 25). The V statistic is limited because it provides no information regarding an item’s content-match with dimensions it was not intended to measure. “Therefore, it is necessary to determine whether the items (as rated by the content judges) are primarily measuring their intended domain specification, or whether the items also are measuring the other domain specifications...” (p. 28). Cohen’s ES index permits such an assessment through “...planned contrasts [$n=2$]...between the mean content-relevance

score for the ‘construct of interest’...and the mean content-relevance score for each of the [two] remaining constructs. V statistics for reviewer ratings of each item are presented in Table 26.

Table 26
Validity Coefficient (V) of Reviewer Ratings for Each Item on Intended Dimension

Item	Dimension	V Coefficient	Item	Dimension	V Coefficient
1	Core Affect	.66	19	Emotion	.88*
2	Core Affect	.75	20	Emotion	.46
3	Appraisal	.54	21	Appraisal	.58
4	Core Affect	.29	22	Appraisal	.71
5	Core Affect	.38	23	Core Affect	.79
6	Appraisal	.88*	24	Emotion	.46
7	Emotion	.67	25	Emotion	.75
8	Emotion	.83*	26	Core Affect	.75
9	Appraisal	.75	27	Appraisal	.83*
10	Core Affect	.83*	28	Emotion	.60
11	Appraisal	.71	29	Appraisal	.83*
12	Core Affect	.66	30	Core Affect	.71
13	Emotion	.60	31	Appraisal	.71
14	Emotion	.79	32	Emotion	.75
15	Emotion	.88*	33	Core Affect	.63
16	Appraisal	.66	34	Appraisal	.63
17	Appraisal	.92**	35	Emotion	.30
18	Core Affect	.71	36	Core Affect	.50

Statistical Significance: *=p≤.05; **=p≤.01

Values of V range from 0 to 1. If an item received a value of 1 that would indicate that all reviewers rated the item as high as possible (i.e., 7=excellent fit), and a value of 0 would indicate the opposite (0=very poor fit). Three items (i.e., 4, 5, and 36) comprising the core affect dimension received the lowest scores of .29, .38, and .50 respectively. Item 10 was above the suggested guideline of .80 as utilized by Bernabé, Sheiham, and Tsakos (2007) meeting Aiken's (1985) .05 significance level. Although items 2, 23, and 26 were below the .80 guideline (.75, .79, & .75 respectively) there was only one outlier or discrepant reviewer for each item, with three of four reviewers rating the items a six or a seven. Item 18 and 30 (.71) were lower but also only contained one discrepant reviewer, the rest all suggesting a strong fit with the core affect dimension. With discrepant ratings, "the validity of the statistics used to evaluate the suitability or quality of the items would be greatly enhanced if the deviant judge's ratings are removed from the analysis" (Dunn et al., 1999, p. 19). The remaining items (1, 12, & 33) each possessed coefficient scores below .70. Six items (i.e., 7, 13, 20, 24, 28, and 35) representing the emotion dimension each received below average scores (i.e., $\leq .67$). These scores may be indicative of some ambiguity in the wording of the items or other problems that make them a poor measure of the emotion dimension. Items 8, 15, and 19 (.83, .88, & .88 respectively) met or exceeded Aiken's .05 significance level. Item 14 (.79) fell just below Aiken's suggested .80 guideline. Meanwhile items 25 and 32 (.75 each) were below, but also contained strong agreement among three of four reviewers. The appraisal dimension overall received the highest scores. Four items (i.e., 3, 16, 21, and 34) received lower scores well below .80. Item 17 received the highest score (.92) of all items well above .80 and meeting Aikens' .01 significance level. Items 6, 27, and 29 (.88, .83, .83 respectively) each met or exceeded Aikens' .05 level. Item 9 (.75) was below the .80 guideline but received consistent feedback from reviewers

regarding the items fit with the appraisal dimension. Finally, items 11, 22, and 31 (.71), although below .80 again possessed strong agreement among reviewers.

It was expected that some items would be evaluated positively (i.e., perform well) and others not, however these initial coefficient statistics should not be considered decisive in determining which items to keep or eliminate. These findings are limited because, "...the V statistic provides no information regarding an item's content-match with each of the [two] domain specifications for which the item was not intended to measure..." and as a result, "...it is necessary to determine whether the items (as rated by the content judges) are primarily measuring their intended domain specification, or whether the items also are measuring the other domain specification that are under investigation" (Dunn et al., 1999, p. 27-28).

To provide further evidence of item content-relevance Cohen's ES index needed to be calculated (Table 2). "The ES provides valuable information about the magnitude or size of the difference between two means being compared..." and more importantly provides an important indication of the practical significance of an ES (Dunn et a., 1999, p. 28; Hill & Thompson, 2004). Hill and Thompson discuss the practical significance of calculating ES relating to a clinical depression intervention. Two interventions received identical ES scores, but following administration to two groups, only one intervention produced significant results. Despite identical ES values, only one intervention actually possessed practical significance.

Table 27
Mean Content-Relevance Scores and Mean-Difference Effect Sizes

Item	Mean Dimension Ratings			Mean-Difference ES		Item	Mean Dimension Ratings			Mean-Difference ES	
	Affect	Emotion	Appraisal	Contrast 1	Contrast 2		Affect	Emotion	Appraisal	Contrast 1	Contrast 2
1.[c]	5.00	4.25	2.75	c-e (0.51)	c-a (1.16)	19.[e]	3.25	6.25	3.00	e-c (2.68)	e-a (4.80)
2.[c]	5.50	3.25	1.75	c-e (0.85)	c-a (1.88)	20.[e]	4.50	3.75	2.25	e-c (-0.23)	e-a (1.00)
3.[a]	2.50	6.00	4.25	a-c (0.83)	a-e (-0.99)	21.[a]	4.00	5.75	4.50	a-c (0.46)	a-e (-1.11)
4.[c]	2.75	4.00	2.75	c-e (-0.64)	c-a (0.00)	22.[a]	4.25	5.50	5.25	a-c (0.58)	a-e (-0.17)
5.[c]	3.25	4.50	4.00	c-e (-0.60)	c-a (-0.29)	23.[c]	5.75	3.25	2.25	c-e (1.67)	c-a (2.17)
6.[a]	3.00	5.25	6.25	a-c (2.23)	a-e (1.04)	24.[e]	4.00	3.75	2.25	e-c (-0.011)	e-a (1.19)
7.[e]	4.25	5.00	4.75	e-c (0.56)	e-a (0.28)	25.[e]	4.00	5.50	4.25	e-c (1.11)	e-a (1.11)
8.[e]	2.75	6.00	2.75	e-c (2.69)	e-a (3.65)	26.[c]	5.50	4.00	2.25	c-e (0.74)	c-a (1.70)
9.[a]	3.50	4.75	5.50	a-c (1.23)	a-e (0.54)	27.[a]	4.00	4.75	6.00	a-c (1.55)	a-e (1.40)
10.[c]	6.00	3.25	2.25	c-e (2.27)	c-a (3.54)	28.[e]	5.00	4.50	4.75	e-c (-0.23)	e-a (-0.15)
11.[a]	3.75	4.75	5.25	a-c (0.76)	a-e (0.31)	29.[a]	3.50	4.75	6.00	a-c (2.31)	a-e (1.84)
12.[c]	5.00	6.00	5.25	c-e (-1.23)	c-a (-0.22)	30.[c]	5.25	4.00	2.25	c-e (0.64)	c-a (1.66)
13.[e]	3.75	4.50	2.25	e-c (0.34)	e-a (1.39)	31.[a]	4.25	5.00	5.25	a-c (0.58)	a-e (0.19)
14.[e]	3.25	5.75	3.25	e-c (1.98)	e-a (2.60)	32.[e]	4.00	5.50	5.00	e-c (1.23)	e-a (0.37)
15.[e]	3.25	6.25	3.25	e-c (2.68)	e-a (3.95)	33.[c]	4.75	4.25	5.50	c-e (0.65)	c-a (-0.77)
16.[a]	3.75	3.50	5.00	a-c (1.18)	a-e (0.77)	34.[a]	3.50	3.00	4.75	a-c (0.69)	a-e (0.94)
17.[a]	3.75	5.00	6.50	a-c (2.15)	a-e (2.11)	35.[e]	3.00	2.75	2.00	e-c (-0.10)	e-a (0.43)
18.[c]	5.25	3.75	2.00	c-e (0.64)	c-a (1.43)	36.[c]	4.00	4.75	3.75	c-e (-0.68)	c-a (0.20)

Letter in brackets identify the dimension that each item was originally intended to measure: [c] = core affect; [e] = emotion; and [a] = appraisal. Table was modified from Dunn et al., (1999, p. 29).

Guidelines for interpreting ES values were based on those of Dunn et al., who had adopted the recommendations put forth by Cohen (1977). A value "...of .80 or greater was considered to show a large ES, and a value ranging from .50 to .79 was considered to represent a moderate ES" (Dunn et al., p. 28). Note that these values were only used as a guideline. The strict use of Cohen's benchmarks is "an inappropriate interpretation strategy" according to Hill and Thompson (p. 188). "The appropriate interpretation strategy explicitly and directly compares the effects in a given study with the effect sizes obtained in prior studies in the related literature" and thus recognizes that "effect magnitudes are context-specific" (2004, p. 188). Direct comparison with other research was not possible because no earlier research existed reporting on the development of an emotions-based outdoor recreation conflict scale. Careful examination of V coefficient scores, ES values, and reviewer open-ended feedback identified 13 items that were removed as candidates for the emotions-based conflict scale. Six items were from the core affect dimension (i.e., 1, 4, 5, 12, 30, and 36), four were from the emotion dimension (i.e., 13, 24, 32, and 35), and three from the appraisal dimension (i.e., 3, 9, and 21).

Although item one ("I became upset, which made my recreation experience pleasant") received moderate to large ES values, reviewer comments raised consistent concerns that the item was measuring multiple dimensions. One reviewer said "triple barreled" while two others agreed that it was "double barreled" and measuring two constructs simultaneously. Items four and five were both victims of a similar concern, but perhaps more importantly both items received very low V coefficient scores (.29 and .38 respectively) and extremely weak ES values providing statistical evidence and justification for their removal. The mean dimension ratings for item 12 ("The behaviour of another person made me feel angry and created an immediate feeling of intense displeasure") were all very high suggesting some confusion amongst reviewers as to

this items appropriate dimension. ES values further support this item inconsistency. One reviewer said that the item read as a vague appraisal item, while another felt that it was measuring two concepts. This same reviewer was concerned about the use of “immediate feeling”. Item 30 (“I became nervous and no longer felt relaxed while engaged in my outdoor recreation experience”) actually scored reasonably well on both the V coefficient (.71) and ES values. There was some disagreement among reviewers whether or not this item was intended for the core affect or emotion dimension. These concerns and the fact that a sufficient number of accepted affect items remained, lead to this item being removed. Finally, item 36 (“I felt angry towards another recreationist that made me feel stressed”) was removed because of poor statistical performance according to both V and ES values. Open-ended comments raised concerns about the unidimensionality of the item and that it may be measuring two concepts as well as the causal direction that the item was implying. One reviewer said, “I would have thought the stress would have caused the anger, not the anger cause the stress”.

Item 13 from the emotion dimension received satisfactory statistical scores and also possessed a large ES (1.39) for appraisal, showing evidence that it clearly does not associate with that dimension. It may however have been closely measuring the core affect dimension. The belief of one reviewer was that the item did not clearly identify an affective change and the concern was that the item would not distinguish between a pre-experience emotional state and an emotional change that occurred during a recreation experience. According to reviewers it was clear that item 24 (“I felt distressed during my recreation experience”) was not associated with the appraisal dimension. Unfortunately, reports of its association with core affect and emotion were mixed. Mean dimension scores of 4.00 and 3.75 for affect and emotion respectively show that none of the reviewers could agree upon which dimension the item belonged. Comments

supporting the removal of item 24 included, “How is stressed and distressed different? That’s pretty complicated and hard to see how it relates to interpersonal conflict”. Item 32 (“I felt scared when around other people on the trail”) contained too much ambiguity in its proposed format. Mean dimension ratings were almost equally split between core affect, emotion, and appraisal (4.00, 5.50, and 5.00 respectively) justifying its removal. Item 35 (“I was very dissatisfied with my recreation experience today) was removed because of agreement but all reviewers that it did not suit any of the three dimensions. Mean dimension ratings of 3.00, 2.75, and 2.00 for affect, emotion, and appraisal illustrate this. A V coefficient value of .30 clearly suggests that the item is not measuring the intended emotion dimension. No reviewer comments were given.

Item 3 from the appraisal dimension was removed because reviewer ratings clearly suggested that they believed the item to be a member of the emotion dimension. Evidence of this was found in one reviewer comment, “This one gets at the change in emotion well”. The intent however was to address the cause of the change, not simply the change. The cause for removal of item 9 (“I felt scared of other trail users because of their behaviour) was more difficult to pinpoint. Statistically, the item performed well with a V coefficient value of .75 (although this is still below the .80 guideline) and moderate to large ES values suggesting that the item was capturing the appraisal dimension. One reviewer said, “It seems to contain an appraisal element, but not clear what it is. A very vague focus point”. Revisiting the theoretical foundation for the item and realization that other similar items representing the appraisal dimension scored higher justified removal of this item. There may have been nothing wrong with the item, however, theoretically there was also no inherent benefit in keeping the item when better performing alternatives were available. Finally, item 21 (“I felt sad because the actions of other detracted

from the enjoyment of my recreation experience”) was removed because according to one reviewer it appeared to be “A triple barrelled question”. Statistically results also supported a stronger fit with the emotions dimension (-1.11).

Of the remaining 23 items, 12 were subject to minor changes based on reviewer comments and re-examination of the theoretical foundation of the items and their underlying dimensions. Each of the items found to best measure core affect possessed strong statistical scores (see Table 26 and Table 27) except for item 33. There was a strong theoretical foundation for keeping the item and therefore modifications were made and the item kept. Stress was replaced with ‘distressed’ and emotive feelings were more strongly linked to disrespectful behaviour as found common in the conflict literature (e.g., Vaske et al., 2004). Items 2, 18, and 23 each received minor modifications.

Each of the items representing the appraisal dimension (i.e., 6, 11, 16, 17, 22, 27, 29, 31, and 34) each possessed acceptable ES statistical results except for item 22 (see Table 27), which suggested some potential overlap with the emotion dimension. Analysis of reviewer comments revealed a potential solution: “The appraisal component just seems vague. In conflict research we often have asked them to describe that behaviour and the type of trail user...and what’s the behaviour?” Item 27 was also subject to minor revisions based on reviewer recommendations. Readers are directed to Table 3 for a list of all 12 items with their modifications. Items 11, 16, 31, and 34 received lower than acceptable V coefficient scores, however ES values were more supportive of their retention, in particular items 16 and 34 which both received moderate to large ES values.

Items 8, 14, 15, 19, and 25 representing the emotions dimension each performed extremely well statistically (See Table 27). Items 7, 20, and 28 did not perform as well, but were

retained because theoretically these items were expected to perform well. Changes to each of the items were however made based on reviewer comments. For example, item 20 (“I felt anxious while engaged in my outdoor recreation activity”) was changed to better capture a change in emotions and the magnitude of the item reduced. It was believed by one reviewer that the item was too negative (“It seems you are implying a negative outcome of some type”).

Table 28
Original and Modified Item Comparison

Item	Original Wording	Modified Wording	Explanation of Change
2	My recreation experience today was very unpleasant	My recreation experience today became very unpleasant	Inserted “became” to better capture the “change” in core affect
18	I experienced a change in my feelings of general happiness to feeling tense during my involvement in my outdoor recreation activity	I experienced a change from feeling happy to feeling unhappy during my involvement in my outdoor recreation experience	Changed to reflect a more specific change in happiness and remove assumption of “general happiness state”
23	My general demeanor changed from being relaxed to feeling anxious	My mood changed from feeling relaxed to feeling anxious	“general demeanor” replaced with “mood” to avoid ambiguity
33	The stress caused by the actions of another recreationist made me feel unpleasant	I felt distressed by the disrespectful behaviour of other trail users	Feelings more strongly linked to a specific type of behaviour
11	I felt dissatisfied with my recreation experience because of my encounters with other trail users	I felt displeasure with my recreation experience because of my encounters with other trail users	Dissatisfied replaced with displeasure believing that this better represented an emotion
16	I was alarmed by the inappropriate behaviours of other trail users	I was upset by the inappropriate behaviours of other trail users	Alarmed replaced with upset to better capture emotion
22	I became angry because of the behaviour of another trail user	I became angry because other trail users were not obeying appropriate trail etiquette	Behaviour of other trail users replaced with a more identifiable action
27	I felt disgust because of the reckless and careless behaviour of other trail users	I became annoyed because of the reckless and careless behaviour of other trail users	Felt replaced with became to capture change and annoyed better represented emotion
31	I became upset as a result of encountering too many other trail users	I was upset because I encountered too many other trail users	Changed general wording to improve readability
7	I felt very apprehensive when around too many people along the trail	I felt apprehension towards other trail users	Reworded to simplify
20	I felt anxious while engaged in my outdoor recreation activity	I became nervous while engaged in my outdoor recreation experience	Inserted became to capture change in emotions
28	I felt tense when around other people on the trail	I felt a sense of anxiety towards other trail users	Anxiety believed to be a more powerful emotion

Overall, results from the expert review of item-content validity found good support for a number of the proposed items. Other items were plagued by issues concerning their unidimensionality and were considered by the reviewers to be “double barreled”. And other items were retained with only minor revisions related to wording concerns. The decision to retain or eliminate items was not a purely statistical one. V coefficient and ES benchmarks were used as guidelines, but because of the context-specific nature of the items and dimensions, the a priori theoretical foundation(s) for items was relied on when making any final decisions. Inclusion of an expert-review of item content-relevance is not common in the statistical literature according to Dunn et al. (1999). In their article discussing, *The empirical assessment of construct validity*, O’Leary-Kelly and Vokurka (1998) made no reference to the expert-reviewer procedures as either a recommended, important, or necessary step. Examination of three leisure-related scale development articles (i.e., Jackson & Marsh, 1996; Trottier, Brown, Hobson, & Miller, 2002; and Peden & Schuster, 2008) found no mention of the use of any form of expert-reviewer evaluation. It must be assumed that this additional evaluation was not conducted. Under the present investigation, the expert-reviewer process proved beneficial in identifying, eliminating, modifying, and theoretically strengthening the list of items presented to JNP visitors to be used as part of the primary evaluation process. A complete list of the 23 final items included for analysis in the survey instrument as listed are provided below as part of the scale validation section. Detailed analysis of the scale items and dimensions is provided next based on exploratory and confirmatory factor analysis.

CHAPTER SIX

Scale Validation: Exploratory and Confirmatory Factor Analysis

6.1 Introduction

A primary goal of this research study was to develop a multi-dimensional, multi-item conflict scale that better captured the emotional or affective component of people's conflict experiences. Although "There is no formal criteria for what is and what is not an emotion" (Russell, 2003, p. 145), psychological investigations into emotions and mood have identified a number of components that comprise emotional or affective reactions to events or situations (Russell, 1980, 1999, 2003; Russell & Snodgrass, 1987). It was theorized in this research investigation that outdoor recreation conflict is the experiencing of a negative emotion characterized by what Russell (2003) calls an 'emotional episode'. Therefore conflict is the reciprocal reaction of our emotions (i.e., those feelings of being angry at someone, frustrated by the actions of another person, etc), our core affect (i.e., our changing feelings of pleasure-displeasure and tension-relaxation), and our cognitive appraisals or attributions (i.e., the way we mentally or cognitively make sense of the situation/event occurring around us). The reader is encouraged to re-read section 2.11 for a more detailed explanation of these three constructs. To effectively measure/capture the multi-dimensionality of the people's emotional reactions a multi-dimensional, this study proposed a multi-item scale.

6.2 Scale Development Research Methods

Developing and validating the proposed outdoor recreation conflict scale required following a number of established procedures as described by Mo, Howard, and Havitz (1993) and Dunn, Bouffard, and Rogers (1999). Initially 36 scale items representing each of the three dimensions (i.e., emotions, appraisal, core affect) were developed based on the literature on

conflict and emotions. An expert panel of leisure researchers subsequently assessed the item-content relevance of each of the 36 items. Qualitative and quantitative analysis of their feedback resulted in the elimination of 13 items. Items belonging to the “Emotion” dimension direct an emotion at someone else (e.g., “I was frustrated with several other people on the trail”). “Appraisal” dimension items introduce the cognitive appraisal component whereby individuals identify specifically the cause of their particular negative emotion (e.g., “I was annoyed because other trails users were damaging/disrespecting the natural environment”). The final “Core Affect” dimension items more closely capture changes in individuals mood states (e.g., “My recreation experience today became very unpleasant). The resultant three-dimensional, 23-item scale is shown in Table 29.

Table 29
Original Three-Dimension 23 Item Outdoor Recreation Conflict Scale

Emotion	Appraisal	Core Affect
3. I felt apprehension towards other trail users.	4. I felt contempt towards other trail users because they interfered with my personal goals.	1. My recreation experience today became very unpleasant.
5. I felt anger towards another person(s).	6. I felt displeasure with my recreation experience because of my encounters with other trail users.	2. I felt tense (as opposed to calm and relaxed) during my outdoor recreation experience.
9. I was frustrated with several other people on the trail.	10. I was upset by the inappropriate behaviours of other trail users.	8. I experienced a change from feeling happy to feeling unhappy during my involvement in my outdoor recreation experience.
13. I felt disgust towards other trail users.	14. I was annoyed because other trail users were damaging/disrespecting the natural environment.	11. My mood changed from feeling relaxed to feeling anxious.
16. I felt a sense of anxiety towards other trail users.	17. I became annoyed because of the reckless and careless behaviour of other trail users.	15. I became nervous while engaged in my outdoor recreation experience.
19. I felt hatred towards another group of trail users.	20. I became angry because other trail users were not obeying appropriate trail etiquette.	18. Overall, my feelings changed from happy to sad during my outdoor recreation experience.
21. I felt distressed by the disrespectful behaviour of other trail users.	23. I felt frustrated because the trail was so crowded.	
24. I felt annoyed by other trail users around me.	25. I was upset because I encountered too many other trail users.	
	26. I wasn't able to enjoy my leisure experience as much as I hoped/wanted because of an encounter with another group of trail users.	

NOTE: The numbering reflects the order that they appeared on the questionnaire distributed to study participants. From this point forward scale items will be referred to by their numbering listed above. #7, #12, and #22 are not listed above because they were “positive” items inserted to cross-check participant responses for validity.

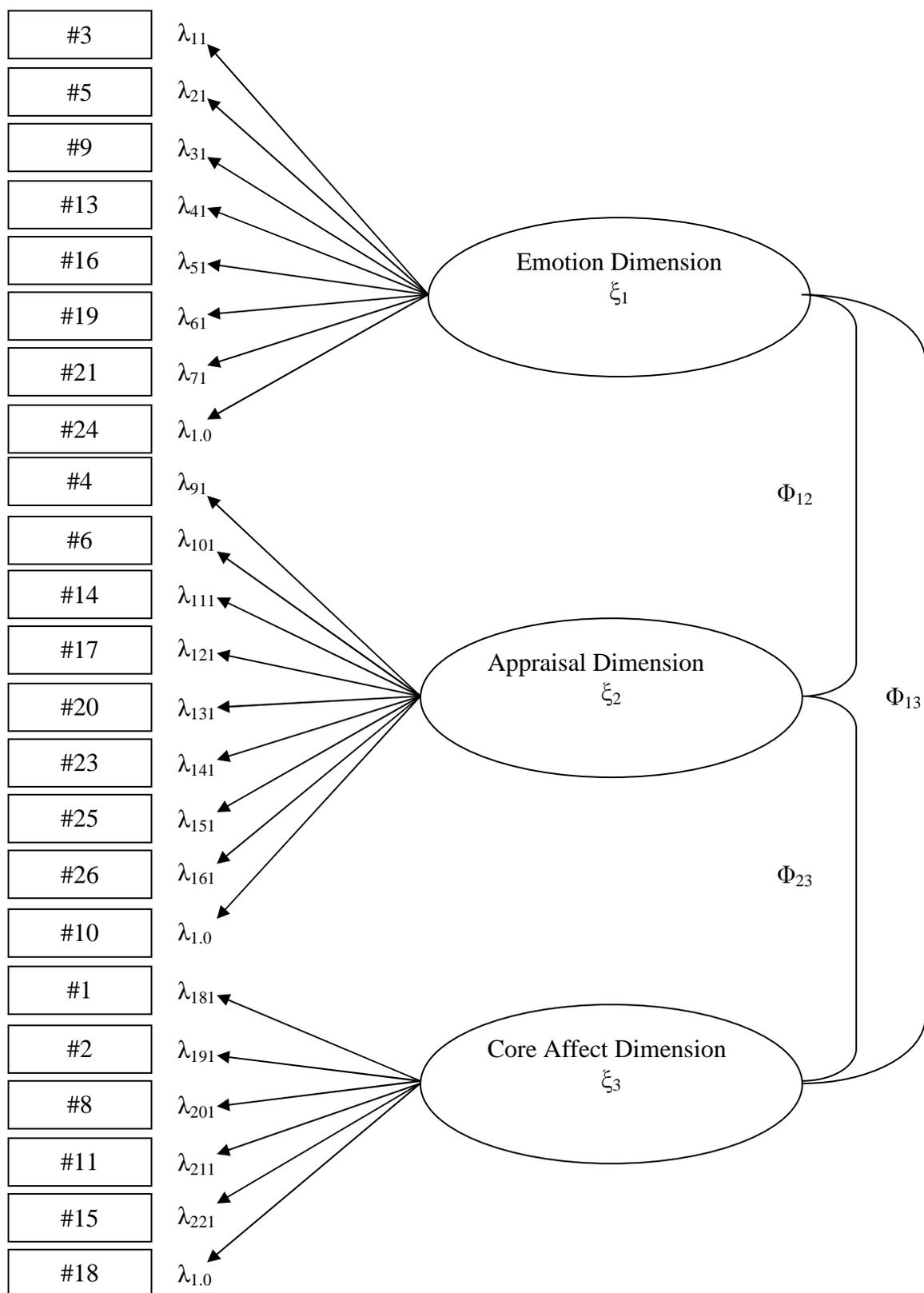
6.3 Confirmatory Factor Analysis

An a priori theory was formulated based on the psychological literature on emotions that stipulated the existence of three distinct yet correlated factors each able to be measured using unique indicators. A confirmatory factor analysis (CFA) was performed to confirm or deny the existence of the a priori model (see Figure 12). CFA, as the name suggests, is a “confirmatory technique” most often run using structural equation modeling to test a theory for which potential

relationships among variables and factors has already been posited (Tabachnick & Fidell, 1996). Model superiority was based on goodness-of-fit indices (Hu & Bentler, 1999; Hooper, Coughlan, & Mullen, 2008). Absolute fit indexes (i.e., Chi-Square, CFI, GFI, SRMR, RMSEA) assess “how well an a priori model reproduces the sample data” (Hu & Bentler, 1999, p. 2). The chi-square test remains a popular fit statistic, however it is limited because of its sensitivity to sample size (Hooper et al., 2008). According to Hooper et al., “the Chi-Square statistic nearly always rejects the model when large samples are used...[unfortunately]...where small samples are used, the Chi-Square statistic lacks power and because of this may not discriminate between good fitting models and poor fitting models” (2008, p. 54). The goodness-of-fit statistic or GFI was created as an alternative to the Chi-Square test by Joreskog and Sorbom (Hooper et al., 2008). “By looking at the variances and covariances accounted for by the model [GFI] shows how closely the model comes to replicating the observed covariance matrix” (Hooper et al., 2008, p. 54). A cut-off value of 0.90 has traditionally been recommended for GFI, however with lower factor loadings and samples sizes the suggested cut-off has now become 0.95 (Hooper et al., 2008). The root mean square error of approximation (RMSEA) is a popular fit index and considered one of the most informative because of “its sensitivity to the number of estimated parameters in the model” (Hooper et al., 2008, p. 54). “In other words, the RMSEA favours parsimony in that it will choose the model with the lesser number of parameters” (Hooper et al., 2008, p. 54). Hu and Bentler (1999) recommend a cutoff value of close to .06 RMSEA in order to confidently suggest a relatively good fit between hypothesized models and observed data. Values above .07 are considered to be indicative of a mediocre or even poor fitting model (Hooper et al.). The standardized root mean square residual (SRMR) is another commonly reported fit index. Values less than .05 are considered ideal and representative of well-fitting

models, however values up to .08 are acceptable (Hu & Bentler; Hooper et al.). “...it must be noted that SRMR will be lower when there is a high number of parameters in the model and in models based on large sample sizes” (Hooper et al., 2008, p. 55). Finally, the comparative fit index (CFI) is an often relied upon fit indice because it has been found to perform well even with small sample sizes (Tabachnick & Fidell, 2007). In order to ensure that misspecified models are not accepted a value greater than .90 is needed, with values $\geq .95$ being preferred as they are more indicative of a good fitting model (Hu & Bentler; Hooper et al.).

Figure 12: Three-Dimension 23-Item A Priori Model



The CFA rejected the theorized model of emotions (Figure 12). Although the Chi-Square statistic ($X^2=2320.16$; $df=227$) rejects the current model, because it is sensitive to sample size it is uncertain whether this statistical finding is a result of this study's large sample size ($N=422$). The results for the GFI ($GFI=.68$) further confirm the current model's poor fit. Values of .90 or higher are typically considered acceptable (Hooper et al., 2008). The CFA also produced a RMSEA value of .15, well above the upper limit cut-off of .07. The a priori model was specified with 26 parameters estimates; a large number that may at least partially explain the high RMSEA value. The SRMR however, tends to favour models with greater numbers of parameters. Unfortunately, an SRMR value of .097 was produced, which is well above the accepted limit of .08 and considerably higher than the .05 value indicative of well fitting models (Hooper et al., 2008). Unlike the Chi-Square, the CFI is least effected by sample size. Values $\geq .95$ are indicative of good fitting models. The a priori model produced a CFI of .87. This value is also below the .90 value necessary for ensuring that misspecified models are not accepted (Hu & Bentler, 1999). It seems likely that at the very least there has been some misspecification of the model when compared to the observed data based on the CFI and which further lends support to the very poor findings from the other fit indices (i.e., Chi-Square, GFI, RMSEA, SRMR).

The modification indices presented in the LISREL program output confirmed a number of apparent misspecifications. For instance, results suggested items 15 and 18 were better at capturing the emotion and appraisal dimensions when they were theorized to measure the core affect dimension. Similarly, items 3, 5, and 9 were each theorized to represent the emotion dimension. The modification indices suggested a better model fit with these three items loading on the core affect and appraisal dimensions. Modification indices also suggested moving items

21 and 24 to load on core affect and that item 23 was better representative of either the emotion or core affect dimensions.

6.4 Exploratory Factor Analysis

Theoretically a three-factor solution (i.e., emotion, appraisal, core affect) had been established based on a review of the psychological literature on emotions. The CFA goodness-of-fit indices for the a priori model revealed that the model did not fit the observed data. Modification indices revealed a number of potential changes for improving model fit. An exploratory factor analysis (EFA) was therefore conducted. The development of an emotion-based outdoor recreation conflict scale is a new theoretical construct and EFA was performed to help shed light on the modifications recommended by the CFA. It was hoped that this would help identify any potential problematic items (i.e., items that did not load on their intended dimension or exhibited cross-loadings with multiple dimensions). The complete sample (N=458) was split into two separate samples (Sample 1 n=254, and Sample 2 n=204) to verify the final scale. Two separate EFA's were performed with the first sample. The first EFA did not specify the number of factors desired whereas the second EFA specified a three-factor solution. To improve the validity of the scale items and to reduce the likelihood of variables cross-loading a more stringent factor loading value of .55 was used (Tabachnick & Fidell, 2005). The factor loadings for the unspecified EFA are shown in Table 30.

Table 30
Rotated Component Matrix of the Five-Factor Solution of the 23-Item Outdoor Recreation Conflict Scale (N=254)

Item #	1	2	3	4	5
1	-.020	-.042	.687	.039	.110
2	.092	-.011	.506	.477	.201
8	.148	.090	.588	.301	.288
11	.186	.200	.213	.742	-.076
15	-.088	-.025	.066	.852	.039
18	.141	.312	.703	.177	-.076
3	.259	.090	.530	.157	.072
5	.305	.430	.513	.179	-.367
9	.627	.196	.261	.030	-.245
13	.514	.229	.307	.075	-.241
16	.364	.360	.226	.394	-.301
19	.104	.231	.227	.041	.632
21	.216	.803	.193	.060	.046
24	.776	.167	.236	.098	-.060
4	.350	.272	.642	.019	-.092
6	.396	.199	.509	-.064	-.179
14	.141	.801	.083	-.016	-.002
17	.146	.856	.118	.073	.118
20	.153	.809	.068	.089	.111
23	.839	.165	-.030	-.001	.302
25	.861	.098	.093	.028	.165
26	.775	.195	.200	.082	.041
10	.494	.578	.170	.091	-.260

NOTE: Item 16 did not have any loadings of .55 or higher and cross-loaded with three dimensions at the cut-off of .312.

As reported, this unspecified EFA produced a five-factor solution. Closer examination of the factor loadings showed that only item 19 (“I felt hatred towards another group of trail users”) loaded on the fifth factor. Similarly, items 11 (“My mood changed from feeling relaxed to feeling anxious”) and 15 (“I became nervous while engaged in my outdoor recreation experience”) were the only two to load on factor four. Consequently, this EFA provides evidence of a simpler three-factor solution, as was initially theorized. Results from the scree plot further support the existence of a three-factor solution.

Further evaluation of the item factor loadings demonstrated preliminary agreement regarding the existence of the theorized three-dimensional construct (i.e., emotion, appraisal, core affect). For example, items 9, 13, and 24 were each theorized to be part of the first emotion dimension, however items 23, 25, and 26, which loaded on factor one were in fact theorized to be part of the second appraisal dimension and therefore should have loaded on factor two. Item 13 possessed a factor loading of .514 on factor one. This was below the established value of .55, however because it did not have any cross-loadings it was decided that factor one was the appropriate dimension. Theoretically, item 13 was loading as predicted and therefore it was decided to await the results from the three-factor specified EFA. Dimension two (appraisal) held together with items 14, 17, 20, and 10 loading as theorized. Item 21 which should have loaded on factor one in fact had a very strong loading of .803 on factor two. Dimension three (core affect) held together as well with items one, two, eight, and 18 each loading as theorized. Unfortunately items three and five should have loaded on factor two. Item five shows evidence of cross-loading with factor two (.430), although this value is below .55 but greater than previously used standards of .312.

The unspecified EFA suggested the existence of a simpler three-factor solution and demonstrated evidence that the three theorized dimensions were appropriate. A second EFA was run specifying a three-factor solution to help establish more clearly the retention of the three-dimensions and to potentially identify those items that were the most problematic. The rotated component matrix for the three-factor solution is shown in Table 31.

Table 31
Rotated Component Matrix of the Three-Factor Solution of the 23-Item Outdoor Recreation Conflict Scale (N=254)

Item #	1	2	3
1	.087	-.026	.563
2	.104	.006	.695
8	.191	.102	.645
11	.129	.222	.612
15	-.184	-.005	.593
18	.241	.336	.636
3	.320	.103	.495
5	.385	.455	.466
9	.667	.205	.173
13	.559	.241	.242
16	.363	.380	.381
19	.101	.218	.211
21	.238	.806	.151
24	.789	.170	.196
4	.455	.289	.479
6	.492	.213	.320
14	.158	.800	.020
17	.152	.855	.105
20	.148	.807	.078
23	.797	.147	-.063
25	.844	.088	.047
26	.778	.194	.161
10	.517	.587	.133

NOTE: Items 5, 16, 19, 4, and 6 did not load significantly on any of the three dimensions. Item 10 showed a good loading of .587 on dimension two but strong evidence of cross-loading with dimension one (.517).

The specified three-factor EFA confirmed the existence of three distinct emotional dimensions. The first emotion dimension had six items that loaded above the cut-off factor loadings value of .55 (i.e., 9, 13, 24, 23, 25, 26) and item six (.492) that loaded below. Each of these items except for item six had all loaded together in the unspecified EFA suggesting that they belong together and are measuring the same construct. Items 9, 13, and 24 were originally intended to be emotion dimension items, however items 23, 25, and 26 were created to capture the appraisal dimension of emotions. Closer examination of these three items with each other

and items 9, 13, and 24 revealed that they have something in common; most apparent is their wording/phrasing of “other trail users”. There is a strong possibility that they are loading together because of this common wording. Item six, originally designed to measure the appraisal dimension was eliminated from any further analysis because of its lower than acceptable factor loading and because it does not appear to have anything in common with its intended dimension. Items 23, 25, and 26 were kept because of their very strong factor loadings (i.e., .797, .844, .778 respectively) despite the fact that they are loading on the incorrect dimension. A more detailed look at these items is presented in the discussion and conclusion chapter, however, regardless additional evaluation will be required to better explain the exact reason(s) for the change in dimension.

The second appraisal dimension contained four items (14, 17, 20, and 21) with very strong loadings (See Table 31). Three of these items (14, 17, and 20) were created to measure the appraisal dimension and therefore this dimension appears to be retaining its theoretical structure. Item 21 was however intended for dimension one (emotion). Re-evaluation of this item’s wording (“I felt distressed by the disrespectful behaviour of other trail users”) confirmed that it more closely captured the appraisal component. The inclusion of the word “by” followed by a clearly identifiable action (i.e., “disrespectful behaviour”) makes this item more closely resemble the other appraisal items because individuals are now identifying the specific cause of their negative emotion. Its very strong factor loading (.806) provides additional evidence for retention of this item, but also for the moving this item to the second appraisal dimension.

The third core affect dimension loaded completely as intended providing proof that each of the originally designed items (1, 2, 8, 11, 15, and 18) were measuring the intended construct. Items 1, 2, 8, and 18 each also loaded together in the first unspecified EFA, while items 11 and

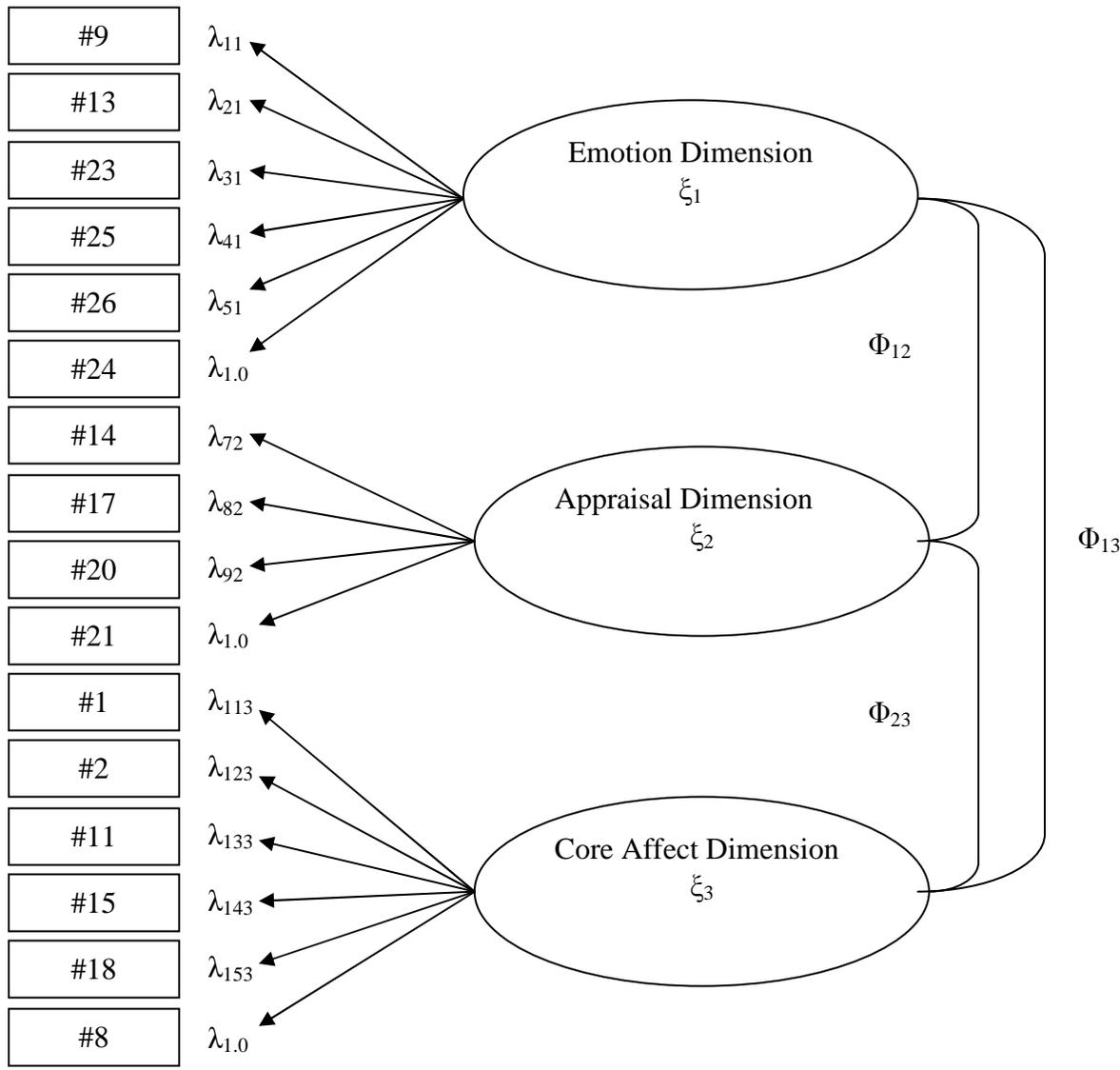
15 loaded very strongly together. Item three (.495) also loaded on this dimension however it was eliminated from further analysis because its factor loading was below the established value of .55. This factor appears to be capturing the core affect component of emotions.

The remaining items (i.e., 3, 4, 5, 6, 10, 16, and 19) were each eliminated from further analysis because of insufficient factor loadings across each of the three dimensions. Only item 10 (.587) exhibited a satisfactory factor loading on the appraisal dimension, but also possessed a factor loading (.517) on the emotion dimension that suggested the likelihood of cross-loadings and evidence that item 10 was potentially measuring multiple constructs. The exploratory factor analysis results confirmed the existence of the three distinct dimensions and further confirmed that many of the items loaded on their originally intended dimensions. The result is a 16-item scale that appears to capture the emotion dimension (items 9, 13, 24, 23, 25, and 26), the appraisal dimension (items 21, 14, 17, and 20), and the core affect dimension (items 1, 2, 8, 11, 15, and 18).

6.5 Confirmatory Factor Analysis Revisited

The exploratory factor analysis established that there existed three separate factors each with their own set of correlated indicators. Based upon the statistical results from the first CFA and the EFA as well as theoretical reasoning a total of 16 indicators were identified. A confirmatory factor analysis (CFA) was conducted to confirm the existence of a three-factor 16-item scale. The factor structure for the three-factor 16-item model is presented in Figure 13.

Figure 13
Three-Dimension 16-Item Confirmatory Factor Analysis Model



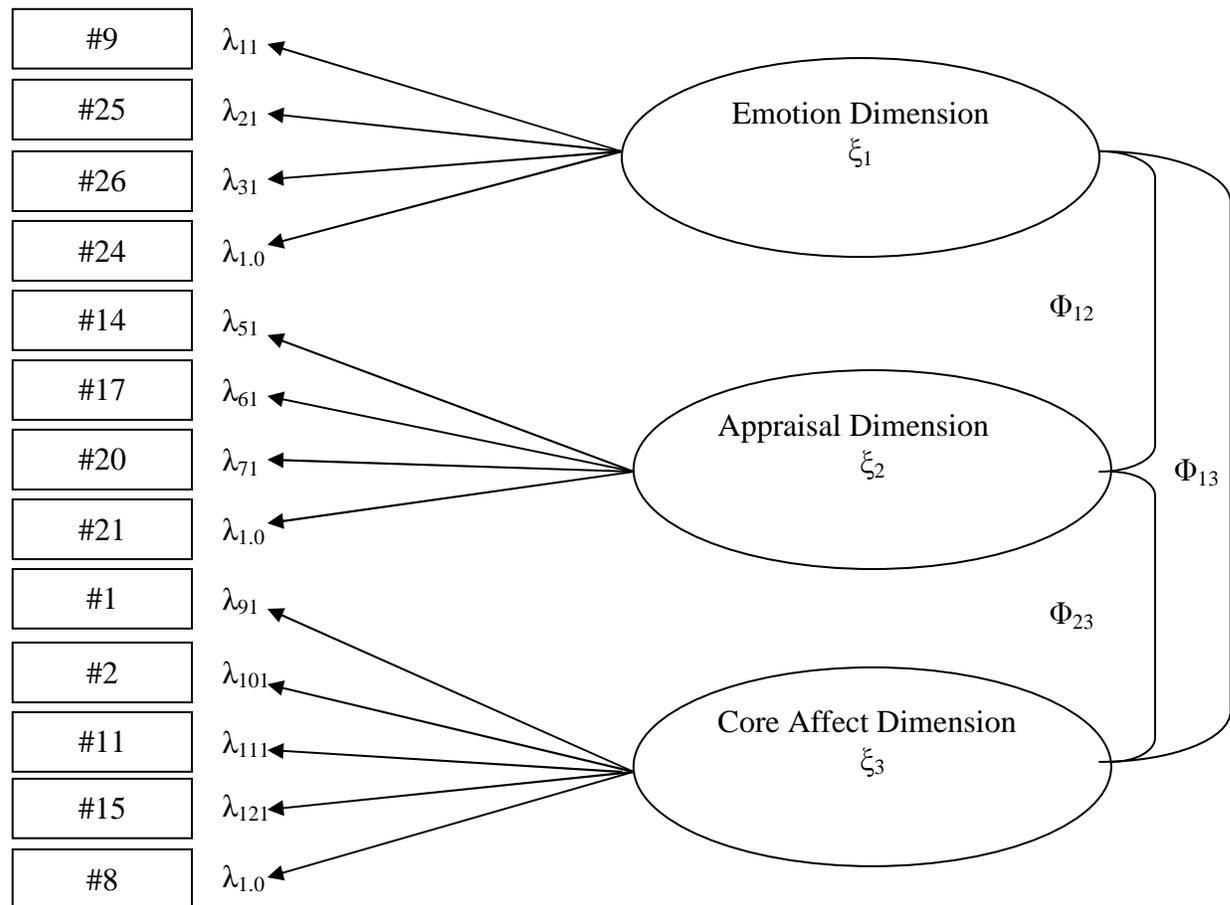
The findings from the second CFA attempted to verify the revised 16-item three-factor model. Results from the three-factor 16-item CFA showed very strong improvements to the Chi-Square statistic ($X^2=353.44$, $df=101$). These findings should be interpreted with some caution, however, because it is not uncommon to see improvements in the Chi-Square when parameters/number of indicators is reduced and a smaller sample size is used. Although an

improvement did result it is possible that the Chi-Square is not discriminating between a good fitting and poor fitting model (Hooper et al., 2008). Improvement was also found in regard to the goodness-of-fit statistic (GFI) (.83 vs .68). This is still below the recommended cutoff of .90. The SRMR fit indice (SRMR=.087) showed similar improvements. This value, however, is still above the maximum .08 value considered acceptable. Hooper et al., note that the “SRMR will be lower when there is a high number of parameters in the model and in models based on large sample sizes” (2008, p. 55). Therefore, seeing a strong improvement in the SRMR after having reduced/eliminated the number of parameters and utilized a smaller sample size should be interpreted positively. Strong improvements were produced for the RMSEA (.117) under the current model. This value is still above the recommended cutoff of .06 and upper limit of .07 (Hu & Bentler, 1999). As with the Chi-Square, this improvement to the RMSEA should be interpreted with some caution as the RMSEA favours models with the fewest number of parameters. The elimination of seven indicators/parameters may be accounting at least partially for the drop in the RMSEA value. The comparative fit index (CFI) may be a better indicator of model fit because it has been found to perform well when sample sizes are small (Tabachnick & Fidell, 2007). The current model produced a CFI of .89, an improvement over the a priori model (CFI=.87). Ideally, values $\geq .95$ are proof of good fit.

The modification indices identified only two possible modifications that would improve the fit of the current model. The modifications suggested that item 13 better measured the appraisal dimension followed by the core affect dimension and not the emotion dimension. Similarly, item 18 was found to better capture the appraisal dimension followed by the emotion dimension and not the core affect dimension. Closer examination of the modification indices revealed a potentially very strong correlation between items 23 and 26, both of which measure

the emotion dimension. After reviewing each of the items comprising each of the dimensions, it was found that removing item 13 would not affect the theoretical basis of the model, but would offer potential statistical improvements. Item 13 had also produced factor loadings below the established .55 cutoff for the unspecified EFA (.514) and only slightly above (.559) for the three-factor specified EFA. Item 18 was also removed because theoretically it is very similar to item eight, therefore not theoretically altering the proposed model, and had a slightly higher factor loading score (.645) compared to item 18 (.636). In an attempt to eliminate any problems created by the correlation between items 23 and 26, item 23 was also removed. Removal of this item fit within the theoretical framework of the model. The resulting 13-item, three-factor model is shown in Figure 14.

Figure 14
Three-Dimension 13-Item Confirmatory Factor Analysis Model



6.5.1 CFA Evaluation of 13-Item Three-Factor Model

Two confirmatory factor analyses were conducted using the above 13-item, three-factor model. The first involved the use of the $n=204$ sample. Strong improvements were produced over the previous 16-item, three-factor model (see Table 32). Overall, the fit indices suggest that the 13-item model is a much better fit to the observed data. Each of the scale items loaded on their intended dimensions with the modification indices suggesting no alterations for improving the loading of any of the items. The modification indices did reveal the existence of some weak

correlations between several of the items, however no changes were made to the existing model as they did not fit with the theoretical construct underlying the model.

As a means of providing verification of the observed findings a second CFA was run on the 13-item, three-factor model using the n=254 sample. The results revealed a better fitting model than produced from the previous CFA (n=204) (see Table 32).

Table 32
Goodness-of-Fit Indices for 13-Item Three-Factor Model: Multi-Group Analyses

Model	χ^2	df	RMSEA ^a	SRMR ^b	CFI ^c	GFI ^d
N=204	145.30	62	.085	.059	.94	.89
N=254	130.42	62	.068	.063	.96	.92

- a. Root mean square error of approximation (Hu & Bentler, 1999). Values close to .06 show good fit. Values between .08 and .10 demonstrate mediocre fit (Hooper et al., 2008).
- b. Standardized root mean square residual (Hooper et al., 2008). Values less than .05 indicate well fitting models. Values up to .08 are acceptable.
- c. Comparative fit index (Hu & Bentler, 1999). .90 indicates acceptable fit. Values $\geq .95$ indicate good fit.
- d. Good-of-fit statistic (Hooper et al., 2008). Values $\geq .90$ are accepted as good fit.

Most notable of these improvements is perhaps the RMSEA which dropped from .085 to .63.

This lies just above the .06 value suggested by Hu and Bentler but well within the upper limit suggestion of .07. These are more recent adjustments to the accepted values for RMSEA.

Previously, values of .08 were accepted as good fit with values up to .10 showing mediocre fit (Hooper et al.). The repeated findings for SRMR are encouraging and demonstrate a fairly well fitting model. SRMR is sensitive to sample size and tends to produce lower values in models based on large sample sizes (Hooper et al.). The current SRMR results are encouraging given the use of small sample sizes. Similarly, the repeated findings for CFI and GFI provide strong evidence for a good fit.

The modification indices for the CFA (n=254) showed that item 15 was in fact measuring the emotion dimension and not the intended core affect dimension. The fact that this modification did not appear in the previous CFA (n=204), because item 15 (.593) loaded on the core affect dimension in the exploratory factor analysis (EFA), and because theoretically item 15 was developed to measure core affect, no adjustments were made to the existing 13-item model. Overall, the findings produced by the multi-group CFA provide strong evidence for a well fitting 13-item, three-factor model capable of measuring the emotional reactions of people to outdoor recreation conflict situations. The items that make up this final, 13-item, three-factor model are reported in Table 33.

6.6 Scale Dimension Reliability

A series of Cronbach's alpha reliability tests were conducted using the full sample (n=422) to determine the reliability of each of the three individual factors. Nunnally (1978) noted that reliabilities of .70 or higher suffice when working with "hypothesized measures of a construct..." which under the present circumstances is represented by the scale's 13 items as a measure of people's emotional reactions to outdoor recreation conflict. Furthermore, this is the first known study of its kind that has attempted to develop an emotions-based outdoor recreation conflict scale. Reliability analysis of the emotion dimension yielded a score of .84 well above the accepted reliability value of .70. Item-total statistics suggested that removal of item 9 ("I was frustrated with several other trail users") would increase this dimensions reliability to .85. Item 9 was not removed from the emotion dimension because the previous exploratory (unspecified=.627; three-factor=.667) and confirmatory factor analyses proved item 9 to be measuring the emotion dimension. Additionally, removal of item 9 offered only a minor improvement in dimension reliability.

Table 33
Final 13-Item Three-Factor Scale

Emotion	Appraisal	Core Affect
9. I was frustrated with several other people on the trail	14. I was annoyed because other trail users were damaging/disrespecting the natural environment	1. My recreation experience today became very unpleasant
24. I felt annoyed by other trail users around me	17. I became annoyed because of the reckless and careless behaviour of other trail users	2. I felt tense (as opposed to calm and relaxed) during my outdoor recreation experience
25. I was upset because I encountered too many other users	20. I became angry because other trail users were not obeying appropriate trail etiquette	8. I experienced a change from feeling happy to feeling unhappy during my involvement in my outdoor recreation experience
26. I wasn't able to enjoy my leisure experience as much as I hoped/wanted because of an encounter with another group of trail users	21. I felt distressed by the disrespectful behaviour of other trail users	11. My mood changed from feeling relaxed to feeling anxious
		15. I became nervous while engaged in my outdoor recreation experience

The appraisal dimension produced a very high reliability of .86. Removal of any of the four items did not produce an improvement to dimension reliability. The reliability for the core affect dimension was lower at .717, but still above the cutoff value of .7 for hypothesized measures of a construct. The reliability of this dimension would not be improved with the removal of any of the five scale items.

6.7 Assessing Predictive Validity

The previous findings offered empirical evidence for the construct validity (“empirical assessment of the extent to which empirical indicators measure the construct,” O’Leary-Kelly & Vokurka, 1998, p. 389) of the proposed outdoor recreation conflict measures. Such validation also confirmed the unidimensionality of the three-factor conflict scale, which involved

“establishing that a set of empirical indicators relates to one and only one construct” and also the scales reliability (O’Leary-Kelly & Vokurka, 1998, p. 390). Additional empirical evidence is needed however to ascertain the predictive validity of the proposed conflict measures, or how well the conflict scale is able to actually predict occurrences of conflict. “Predictive validity is assessed by examining the future standing on a criterion variable as predicted from the present standing on a measure of interest” (Bohrnstedt, 2001, p. 3208). Assessment of the scales’ predictive validity involved the use of correlations, regression, and Chi-Square analysis.

Correlation coefficients were first calculated between each of the three conflict scale dimensions. Each of the three dimensions was significantly correlated (<0.00) with positive medium size correlations (i.e., .3 to .4; Cohen, 1988). The largest correlation was between the emotion dimension and the appraisal dimension (.419). This indicates that the more people agree with the emotion statements the more they agree with the appraisal statements regarding conflict and their experience. Similar findings were produced between emotion and core affect (.290) and core affect and appraisal (.264).

To assess the predictive validity of the three scale dimensions, multiple correlations were calculated between each of the dimensions and variables previously identified to be associated with user conflict (i.e., activity, gender, who travelling with, knowledge of activity, importance of Jasper National Park, importance of Jasper trails, recreation satisfaction, attachment, being easily disturbed, are you a Jasper resident, education, conflict, disrespectful behaviours, goal interference, and knowledge of trail network).

Differences between hikers/walkers and mountain bikers was of particular interest. The emotion dimension was the only dimension significantly correlated with activity choice ($r=-.188$, $p=.000$) suggesting that hikers/walkers are more likely to agree with the emotion statements and

therefore indicating that they have experienced conflict. Previous research (Moore, Scott, & Graefe, 1998) has found that hikers/walkers are more susceptible to conflict particularly when compared with other activities that are regarded as being more technologically and/or environmentally dominant as is mountain biking (Bury, Holland, & McEwen, 1983). The amount/level of knowledge an individual has about a certain activity has also been found to influence reactions to other users. Research in the areas of serious leisure and recreation specialization suggest that people who are more serious or specialized with their chosen activity are more likely to report greater levels of conflict. Vaske et al. (2004) found this in their study of skiers and snowboarders. Stenseng, Rise, and Kraft (2011) reported that people who exhibited 'obsessive passion' for their chosen activity also experienced "...negative thoughts and emotions when prevented from doing their activity" (p. 51). Certain types of encounters with other users may prevent someone from participating (as intended) in their activity resulting in conflict. The correlations suggest that the core affect dimension is negatively but significantly correlated with knowledge/expertise about activity ($r=-.161$, $p=.001$). Interestingly, this suggests that as knowledge/expertise decreases responses to core affect items are likely to increase (i.e., a person is more likely to agree that they have experience a negative change to their feelings). Although unforeseen, this type of finding is not uncommon. Thapa and Graefe (2003) found that less skilled snowboarders and skiers reported/experienced more conflict and were less tolerant of unacceptable behaviours. Emotion ($r=.027$, $p=.585$) and appraisal ($r=.040$, $p=.419$) were both insignificant for activity knowledge/expertise. Knowledge/expertise about the Jasper trail network produced similar findings for the core affect dimension ($r=-.096$, $p=.049$), but resulted in a positive, but small correlation with the appraisal dimension ($r=.133$, $p=.006$).

Recreation satisfaction has become a primary focus of outdoor recreation providers (Fletcher & Fletcher, 2003; Manning, 2003). Being able to ensure that people have a satisfying recreation experience can help reduce and even eliminate occurrences of conflict. Results show a small but significant correlation between each of the three dimensions and the question, "I am satisfied with my recreation experience" (emotion $r=-.149$, $p=.002$; appraisal $r=-.121$, $p=.013$; core affect $r=-.194$, $p=.000$). Essentially, as satisfaction decreases responses to each of the three dimensions is likely to increase suggesting that people have experienced conflict in the form of a negative change to the emotions in response to the actions of others.

Two questions asked responded about the importance and their attachments to the trail network around the town of Jasper. It might be expected that the more important and the more attachment to the trails a person is the more likely he or she would report experiencing conflict. Emotion and core affect dimensions were not significant for importance, however appraisal had a small negative correlation ($r=-.102$, $p=.036$), which suggests the lower the importance the more likely people are going to agree with the appraisal statements and therefore report some level of conflict. Similar findings were found for people's attachment to the trail network. Appraisal was insignificant and emotion ($r=-.102$, $p=.036$) and core affect ($r=-.106$, $p=.031$) produced small negative correlations. This surprising finding may be the result of the sample being largely made up of first time international visitors who would be expected to have very low attachment to the trail network. Interestingly, attachment to Jasper National Park produced a small but positive correlation with the emotion dimension ($r=.126$, $p=.010$). This supports much of the place attachment literature (e.g., Warzecha & Lime, 2001), which says that people with strong attachments to places are likely to be more sensitive to the type and quality of experience that they have while at that particular place.

Several questions asked specifically about experiencing conflict or other specific behaviours while on the trails. For instance, participants were asked, “I am easily disturbed or irritated by the actions of others”. The emotion dimension produced a medium correlation ($r=.371$, $p=.000$), appraisal a small correlation ($r=.192$, $p=.000$) and core affect had no correlation ($r=.090$, $p=.065$). Conflict is very much associated with the actions/behaviours of others and therefore evidence for predictive validity of the emotion and appraisal dimensions is shown. The higher people report themselves being disturbed/irritated by others the more likely they are to agree with the statements of the emotion and appraisal dimensions. Participants were also asked, “My recreation experience is ruined when I experience a negative emotion”. One would expect a positive correlation between this question and each of the three dimensions and that is exactly what was found (emotion $r=.131$, $p=.009$; appraisal $r=.112$, $p=.025$; core affect $r=.103$, $p=.041$). The stronger people agree that a negative emotion ruins their experience the stronger they will also agree with each of the three dimensions. This not only provides some additional evidence for the predictive validity of the three dimensions but also supports this study’s theoretical notion that conflict is the experiencing of a negative emotion. Participants reported on the effect of excessive noise and disrespectful behaviour on their trail experience. No correlations were found between disrespectful behaviour and the three dimensions. This is somewhat surprising because previously it was found that the vast majority of participants listed concerns surrounding disrespectful behaviour when they were asked to define outdoor recreation conflict. A negative correlation was found between excessive noise and the emotion dimension ($r=-.156$, $p=.001$) and positive with core affect ($r=.099$, $p=.043$), although this correlation is considered to be very small. The negative correlation is interesting because it suggests that as people report excessive noise to be less of an issue, they are more likely to agree with the

statements comprising the emotion dimension, which suggests they have experienced a negative change in their emotions. It may in fact be that there are variables other than noise that influence conflict. Perhaps most important for assessing predictive validity is how well the three dimensions correlate with the question, "I have experience conflict today while on the trail". Each of the three dimensions produced medium positive correlations (emotion $r=.420$, $p=.000$; appraisal $r=.316$, $p=.000$; core affect $r=.263$, $p=.000$). It would appear from this that experiencing conflict is correlated with responses to items of each of the three dimensions.

No correlations were found between being a resident of Jasper and only the emotion dimension was correlated with level of education ($r=.101$, $p=.039$). Although the correlation is very small it still suggests that individuals with higher levels of education are more likely to agree with the emotion statements and therefore potentially report experiencing more conflict.

Regression analysis was performed to establish the predictive validity of the proposed three-dimension conflict scale. An initial regression was performed with the three dimensions as independent variables and the question, "I have experienced conflict today while on the trail" as the dependent variable. In regression variables that are most distal are entered first and most proximal last. However, since each of the three dimensions are correlated and considered to be equally important names of each of the three dimensions were entered randomly. Table 34 below presents the findings from the first regression.

Table 34
Regression Analysis Predicting “I have experienced conflict today while on the trail”

Regressor and predictor variable(s)	R ²	AdjR ²	R ² Change	Sig.
Core Affect	.069	.067	---	.000
Core Affect and Emotion	.198	.194	.129	.000
Core Affect, Emotion, and Appraisal	.214	.208	.016	.000

It appears that the emotion dimension is able to explain the greatest amount of variance in the dependent variable. Core affect is able to explain approximately 7%, however once emotion was added the explained variance increased to 19%. A small but significant increase to approximately 21% was witnessed when the third appraisal dimension was included. To help explain the missing variance not able to be explained by the three dimensions a stepwise regression was performed with the addition of the following variables: gender, education, are you a resident, importance of trails, experiencing a negative emotion, encountering more people than desirable, witnessing disrespectful behaviour, interference with personal goals, satisfaction with recreation experience, knowledge/expertise with activity, activity, attachment to trail network, attachment to Jasper National Park, easily disturbed/irritated by actions of others, and excessive noise. Results from this regression are presented in Table 35.

Table 35
Stepwise Regression Analysis Predicting “I have experienced conflict today while on the trail”

Regressor and predictor variable(s)	R ²	AdjR ²	R ² Change	Sig.
Emotion	.155	.153	---	.000
Emotion and Appraisal	.180	.175	.025	.001
Emotion, Appraisal, and I am easily disturbed or irritated by the actions of others	.201	.194	.021	.002
Emotion, Appraisal, I am easily disturbed or irritated by the actions of others, and Core Affect	.215	.206	.014	.013

Results reveal that only one construct; “I am easily disturbed or irritated by the actions of others” is able to explain any additional variance in the dependent variable. In fact, the stepwise regression reveals that this additional variable is a better predictor of conflict than the core affect dimension. There are two possible explanations for this. Firstly, the additional variable addresses specifically a potential root cause of conflict (i.e., actions of others) that was previously identified by participants as both causes of their negative emotions and a component of conflict in their personal definitions. Secondly, the core affect items only address general mood changes throughout the recreation experience and do not necessarily relate those changes to specific “actions of others”. However, the cumulative explained variance of these four variables is identical to the explained variance of the three conflict dimensions. It would appear that when only using the three dimensions that it is possible to capture the explained variance found in the additional variable, “I am easily disturbed or irritated by the actions of others”.

The 23-item a priori model was rejected. Goodness-of-fit indices (i.e., CFI, GFI, SRMR, & RMSEA) established problems with the model specification. Modification indices produced as output from the CFA run using LISREL, recommended a number of alterations. Many of the changes did not make sense theoretically (e.g., moving items 15 and 18 from the core affect dimension to the emotion and appraisal dimension). EFA was used to explore the reported model misspecifications. An unspecified and specified (three-factor) solution supported the use of the three theorized dimensions. Some misspecification was still present, resulting in the moving of items to different dimensions after careful consideration of the statistical and theoretical evidence. Some items (i.e., 3, 4, 5, 6, 10, 16, & 19) were each removed. The resultant 16-item scale was subject to a CFA. This resulted in the elimination of three final items (13, 18, & 23). The final 13-item scale produced CFA results consistent with a good fitting model (See Table 27), with excellent dimension reliability. Correlation and regression analyses were also able to establish the predictive validity of the scale. Notable are the scales' correlations with visitor satisfaction, place attachment, and conflict, which produced the strongest correlations. Regression further established all three dimensions to be the best predictors of conflict above and beyond other conflict related variables. The significance of these findings is discussed in the discussion and conclusion.

Moving away from scale development and statistical analysis, the next chapter examines various topics and issues surrounding knowledge dissemination based on the interviews conducted with Jasper National Park management personnel.

CHAPTER SEVEN

Qualitative Assessment: Conflict Research Utilization in Jasper National Park

7.1 Introduction

Lewis (2007), in her paper examining the role of science in U.S. park service decision-making emphasized a major dichotomy occurring between the amount of biological and physical science research and the amount of social science research being conducted. Her research revealed that there were “at least” 211 scientists doing research in Yellowstone based on the number of research permits issued in 2006. Only three research permits, or 1.4%, however were issued for social science research. Social science input “...seems to be largely missing from the national parks, especially as it relates to value-based issues involving natural resources” (p. 38). Lewis considers social science to be our biggest “science stall” and something that cannot be left unaddressed.

Increasing the amount of research, however, appears to be only part of the problem. For instance, much of the information on which Parks Canada managers rely comes directly from research; particularly research conducted by institutions and individuals not directly affiliated with Canada’s parks system. Therefore, these managers more often than not are required to manage complex social science issues such as outdoor recreation conflict with information unfamiliar to them from research conducted by other individuals. Additionally, findings from research are often difficult for managers to directly apply because “research problems are defined too narrowly and abstractly to have much application” (Manning, 1999, p. 293). As a result, “awareness of new approaches and techniques does not necessarily [guarantee] transfer to active use of new management practices” (Wright, 2003, p. 2).

While recommendations abound about how to improve knowledge transfer between researchers and managers and how to increase the incorporation of the social sciences into resource management; the level of conflict understanding and social science integration remains relatively unknown throughout Canada's national parks. As researchers and natural resource managers, we simply do not know the current state of social science and more precisely conflict knowledge dissemination. The purpose of this qualitative study was to provide insight into the knowledge transfer process occurring between researchers and Parks Canada Agency officials, particularly management personnel working directly in Jasper National Park. Specific attention was given to addressing questions related to: (a) what types of social science research is used to inform management decisions? (b) is outdoor recreation conflict research consulted? (c) how is this research information utilized? (d) Is research information, including conflict research useful and usable? and (e) what are the barriers to incorporating social science research into management decisions?

Participants were also questioned about the current status of their working relationship(s) with academics. Specifically: (a) do they have a working relationship with academics? (b) what are the positives and negatives associated with the relationship? and (c) What can be done to improve the working relationship between academics and park managers?

Finally, participants were asked to evaluate a research document presenting new conflict research findings based on the importance of the research, its usefulness/usability, barriers to use/adoption, and general quality of the document itself.

7.2 Methodology

The following provides an analysis and interpretation of the current state of social science research incorporation, particularly outdoor recreation conflict, occurring in Canada's national

parks. The study utilized a qualitative survey research design, employing one-on-one interviews using the combined interview guide and standardized format (i.e., semi-structured). The use of qualitative interviews was most appropriate because it permitted the retrieval of in-depth information related to participants', "...experiences, perceptions, opinions, feelings, and knowledge" concerning the use of social science research in Canada's national parks (Patton, 2002, p. 4). The use of a semi-structured interview was also believed to be the most rigorous means of obtaining the greatest amount of information. "This combined strategy [or semi-structured approach] offers the interviewer flexibility in probing and in determining when it is appropriate to explore certain subjects in greater depth, or even to pose questions about new areas of inquiry that were not originally anticipated" (Patton, p. 347).

Despite the apparent importance of qualitative research being guided by a theoretical framework (e.g., grounded theory, phenomenology, ethnography, heuristic, case study), Patton (2002) feels that it is not always necessary. Pragmatically, not all research questions are, or need to be theory based. Patton says, that "it is not necessary, in my opinion, to swear vows of allegiance to any single epistemological perspective to use qualitative methods" (2002, p. 136). The current qualitative approach simply allowed categories or dimensions to emerge from the analysis of open-ended questioning as an increased understanding of the phenomenon under investigation was achieved. This methodology permitted simultaneous collection and analysis of the data, along with two stages of data coding and the inclusion of memo writing (Charmaz, 2000). The two stages of line-by-line coding and selective or focused coding permitted an initial line-by-line coding of the data before progressing to focused coding and the sorting of large amounts of data into manageable themes that permitted the explanation of the topic under investigation. The memo writing permitted greater interpretation of the data. As Charmaz

(2000) stated, memo writing, "...helps to spark our thinking and encourages us to look at our data and codes in new ways" (p. 517).

7.3 Researcher-as-Instrument

The credibility of qualitative methods is a reflection of the researcher as the instrument of data collection (Patton, 2002). Patton has suggested that the credibility of the qualitative methods, "...hinges to a great extent on the skill, competence, and rigor of the person doing fieldwork – as well as things going on in a person's life that might prove a distraction" (2002, p. 14). Patton further suggests that some information about the researcher should be included in any qualitative report and offered the following questions as a guide. "What experience, training, and perspective does the researcher bring to the field?", "How did the researcher gain access to the study site?", "What prior knowledge did the researcher bring to the researcher topic and study site?", "What personal connections does the researcher have to the people, program, or topic studied?" (Patton, 2002, p. 566). In essence Patton says that it is best "...to report any personal and professional information that may have affected data collection, analysis, and interpretation" (2002, p. 566). Reflexivity thus becomes critical in the process of reflecting "...on the self as researcher" (Lincoln & Guba, 2000, p. 183).

Although my experience as a researcher and graduate student conducting qualitative research is limited, I have however, previously been provided with training on conducting one-on-one interviews. I have also been involved in several other qualitative based studies, including a more recent qualitative study involving the implementation of the grounded theory methodology. As a researcher studying in the areas of outdoor recreation and recreation conflict I bring to each of the interviews strong theoretical knowledge of the area. I also possess my own interpretations and understandings of the field and, perhaps, with that bring my own biases

related to what research park managers should be incorporating into their management decisions. As a researcher I bring to my research both a constructivist and constructionist view of the world. First, from the constructivist paradigm that each person makes sense of the world in their own way resulting in the existence of multiple realities, all of which are correct. From the constructionist perspective I also believe that our “realities” are molded by society and a pre-existing worldview (Patton, 2002). My approach to research is, as Lincoln and Guba (2000) have also acknowledged, “...that of the constructionist camp, loosely defined” (p. 167). My approach also fosters the constructivist aim “...toward interpretive understanding of subjects’ meanings” (Charmaz, 2000, p. 510). This merging of perspectives is not uncommon as Lincoln and Guba recognized the continual shifting of paradigmatic boundaries.

7.4 Methods

7.4.1 Participants

Participants were recruited using a purposeful sampling technique. Also known as purposive or judgmental sampling, this technique is used when selection of a sample is made on the basis of “...knowledge of the population, its elements, and the nature of your research aims: in short, based on your judgment and the purpose of the study” (Babbie, 1992, p. 230). This particular approach was appropriate for this study as the focus was on sampling Parks Canada staff, who, in some manner or another were involved with or were responsible for management decisions. Purposeful sampling also relies on the selection of information-rich cases (Patton, 2002). According to Patton, “Studying information-rich cases yields insights and in-depth understanding rather than empirical generalizations” (2002, p. 230). Sampling of Parks Canada management staff was believed to be the most effective means of retrieving rich, in-depth

information regarding the use and implementation of research information as it is used to inform management decisions.

A number of Parks Canada staff working for/in Jasper National Park who had previously assisted with the development of my questionnaire was included on the list of potential interview candidates. A list of additional potential interview participants was created based on discussions with Dr. Elizabeth Halpenny at the University of Alberta. At the recommendation of Dr. Halpenny, several people who worked at the Parks Canada head office in Ottawa, Ontario were included as possible contacts. This was done so in the belief that these individuals would be able to provide even more in-depth information regarding research use/adoption.

Ethics approval was received through the Faculties of Physical Education and Recreation (PER) and Agricultural, Life, and Environmental Sciences (ALES) review board at the University of Alberta prior to contacting any potential candidates. Each candidate was subsequently emailed a detailed letter of information explaining the study purpose and why I was requesting their involvement. It is important to note that it was required that participants be involved in some manner with the decision-making of park management decisions. This meant that most participants were of senior status or in a position of considerable responsibility. Aside from this, no other stipulations were put in place to restrict participation. A total of 10 individuals were contacted with five agreeing to participate (male = 3; female = 2; Table 36) and are here referred to as Parks Canada Informants (PCI). Two of the PCI's (i.e., PCI 1 & PCI 2) worked out of the Parks Canada head office in Ottawa, Ontario. Their focus was in the areas of acceptable activities and visitor experience analysts. The remaining three worked directly out of Jasper National Park (JNP). PCI 3 worked on trail network planning and visitor experiences, PCI 4 worked on broader land use planning and PCI 5 on activity coordination in JNP.

Table 36
Parks Canada Informant Details

Parks Canada Informant	Location	Area(s) of Expertise
PCI 1	PC Head Office, Ottawa, ON	Introducing new activities and evaluating acceptability for parks
PCI 2	PC Head Office, Ottawa, ON	Visitor experience evaluation and trail design
PCI 3	JNP, Alberta, Canada	Trail network development/improvements and visitor experiences
PCI 4	JNP, Alberta, Canada	Land use planning and management
PCI 5	JNP, Alberta, Canada	Land use and activity coordination

7.4.2 Data Collection

It should be noted that because two of the interviewees were located in Ottawa, Ontario while I was located in Edmonton, Alberta, two of the interviews were conducted via telephone. The remaining three interviews were conducted in person over a two day visit to Jasper National Park. Data were collected by means of a semi-structured interview utilizing an interview guide. In a semi-structured interview the researcher follows a prescribed set of questions, but also incorporates “individually tailored questions to get clarification or probe a person’s reasoning” (Leedy & Ormrod, 2001, p. 196). According to Patton (2002), an interview guide can be more or less detailed and “...lists the questions or issues that are to be explored in the course of an interview” (p. 343). The specificity of the guide will depend on the ability of the interviewer to identify important issues in advance of conducting the interview (Patton). For the present study the interview guide provided more detail to the interviewer, in that the guide specified some very specific questions and pertinent probing questions to be covered throughout the course of the interview. The possibility of including other questions or probes was encouraged, but left up to

the discretion of the interviewer depending on how the interview was progressing and whether additional topics arose worthy of investigation. The guide also outlined questions/topics in a particular sequence that allowed for a smoother progression from question to question. This approach helped ensure that no pertinent topics/questions were forgotten or left unaddressed.

Prior to formally commencing the interview each participants was reminded of the purpose of the interview, including how their responses were going to be used. Participants were also provided with another copy of the information letter for their records. No formal consent form was used, as participants were simply asked to verbally provide consent that was recorded.

All interviews lasted approximately 60 minutes and included three separate categories of questions. The first related to their use of academic information in general, how they used it, why they used it. Specific questions pertaining to outdoor recreation conflict research and its use were also addressed. Attention was paid to the usefulness and usability of current conflict research, along with barriers to its adoption. Time was also spent discussing issues related to the presentation of research information, specifically pros/cons of how current research is presented versus how they would like to see future research presented. The second category addressed participants' relationship with academics, specifically researchers outside of Parks Canada. They were asked if they believed those relationships were important, whether they were effective relationships, as well as how they felt about the communication process; specifically were there any concerns or recommendations for improving the communication process between researchers and managers. The third category asked participants to provide feedback on the executive summary that they had been given. More specifically, once participants had agreed to participate in the interview they were sent an eight page document three weeks prior to their interview date. The document detailed the findings from my initial quantitative study involving

visitors to Jasper National Park. The intent was to elicit feedback regarding the usefulness of the new research findings, its potential future applicability to assisting management decisions, and the overall layout or presentation of the document.

A small unobtrusive tape recorder was used as a means of ensuring that all responses were recorded verbatim. The tape recorder was placed on a table in-between the participant and the interviewer. A quiet location was selected to reduce ambient noise, which may have otherwise reduced the quality of the recording. Telephone interviews were also tape recorded using an adapter that permitted clear, detailed recording over the phone.

Each participant was thanked upon completion of the interview and encouraged to contact me (the interviewer) or my doctoral advisor (Dr. Gordon Walker) if they had any questions or concerns regarding the study or their involvement.

7.4.3 Data Analysis

According to Patton (2002), “Raw field notes and verbatim transcripts constitute the undigested complexity of reality” and that making sense of potentially large amounts of raw data can involve a rather lengthy data analysis process (p. 463). For the purposes of the present study, analysis began with the creation of verbatim transcripts. The next steps of analysis reflected those associated with an inductive approach. Patton (2002) says that, “Inductive analysis involves discovering patterns, themes, and categories in one’s data” (p. 453). This stage of the analysis process involved the implementation of line-by-line coding wherein each line of data was examined and initial codes given to help define any actions or events (also called units of meaning) within the lines (Charmaz, 2000). This process also involved asking questions such as, “what is going on here?” and “what is this data all about?” which helped to build an understanding of the data and subsequent building of initial codes (Corbin & Holt, 2005, p. 50).

Line-by-line coding was also an important step because it helped to maintain an inductive approach to data analysis.

The next step involved the use of axial coding, which represents another step in the process of data reduction, whereby initial codes discovered during line-by-line coding are grouped as concepts under broader categories (Corbin & Holt, 2005). The process of taking codes and grouping them together as concepts or themes was quite lengthy and involved careful analysis and interpretation of the data in order to identify commonalities. The identification of commonalities permitted the grouping of themes and the refinement of categories. For example, during some of my initial analysis, one of my codes, “usefulness and applicability”, was subdivided to represent what was later recognized as two closely related but distinct themes: “applicability” and “relevance”.

Finally, memo writing was incorporated as a means of strengthening the analysis throughout the entire analytical process. Memos are written records that contain thoughts and interpretations related to the data analysis process that can researchers by allowing them to keep “...track of ever-evolving concepts and more and more complex ideas” (Corbin & Holt, 2005, p. 51). According to Charmaz (2000) memo writing, “...sparks our thinking and encourages us to look at our data and codes in new ways” (p. 517). The following represents an example of a memo that I wrote regarding my thoughts on the presentation of information:

It seems to be that research information needs to be clearly presented in a straightforward, easy to understand fashion. To quote PCI 4 it needs to be “easily consumable”. Research calls this “thin slicing”, only presenting what is needed. This makes me think that research is like fast food. With fast food, consumers are not presented a lengthy document to explain the latest burger or why they should have it; they are presented with a clear picture that tells them. Similarly, park managers don’t want and don’t have the time to read lengthy documents; they want graphs, straightforward summaries that provide them with all of the relevant information. Think of a poster that presents everything, the same way that the menu board at the local McDonald’s displays all information clearly.

7.5 Findings

Because of the semi-structured nature of the interviews conducted with the five Parks Canada management staff, and the a priori development of specific questions pertaining to three areas of inquiry (i.e., use of information, relationship with academics, and executive summary), study results are reported in three separate sections.

7.5.1 Outdoor Recreation Conflict Information

For the purposes of coding and analysis, the line of questioning related to use of information was re-labelled, “Outdoor Recreation Conflict Information”. Comments and categories included under this heading were both specific to conflict research (e.g., is it being used, how, in what manner, what information gaps exist?) and more generally related to social science. Utilizing the coding techniques of Corbin and Holt (2005) and Charmaz (2000), as previously discussed, nine initial categories were identified. After continued analysis and refinement of the nine categories and coding, four information categories emerged: Information Gaps, Access (which was found to be composed of two sub-dimensions: Information & Barriers), Information Use (which was composed of three sub-dimensions: Types, How, & Why), and, finally, How Information is Presented.

7.5.2 “Information Gaps”

“Information Gaps” reflected comments by participants of areas where they believed information was either missing or lacking entirely. Not surprisingly, comments were centered on social science issues that were of immediate relevance to their current management efforts. Comments here were also specific to conflict research or more generally applied to the social sciences. Participants’ comments from these two camps are shown in Table 37 below.

Table 37
Participants Comments Regarding Information Gaps

Information Gaps	
Conflict	Social Sciences
“currently we don’t have any solid PC [Parks Canada] resource for how to deal with conflict on a trail yet that’s something that we’re working toward...” (PCI 2)	“...social science is pretty new in PC [Parks Canada], I’m not sure how many years...maybe 10 years at the most and it’s truly still ramping up...so our capacity is increasing and we’re more interested than we were in the past” (PCI 3)
“The other thing that would be somewhat interesting to get a better understanding of is the actual conflict between amongst similar user groups so in terms of mountain biking the difference between cross-country mountain biking vs downhill mountain biking, vs dirt jumping vs free riding...we’re trying to get a better understanding of one, what each group is looking for and two, what the impacts are and I guess what the potential conflicts issues could be so that’s something else that would be useful to us” (PCI 2)	“...we also have social indicators now too...right now there is a big gap there that we’re we’re all sort of struggling to try and fill so that we’re measuring the right things we’re reporting on the right things we understand what’s happening and what’s affecting visitor experience” (PCI 3)
“...what we need to sort out is...the social factors of conflict when it is occurring and where it is” (PCI 4)	“...there’s a lot of times I find myself even lately, asking myself oh I wonder what they’re doing in some of the remote US states, or central America you know in one of their large scale national parks” (PCI 5)
“...that’s part of the challenge, again, we’ve got the body of research that describes conflict for us and we can understand its asymmetry and all sorts of things...but when it comes to harder measures of acting on the ground that’s where it gets pretty difficult” (PCI 4)	“...you know on our side uh, most of it has been focused on the environmental and the ecological side, aspects that were we have a really close tie, the social science sort of things the social analysis is probably is weaker for sure...” (PCI 5)

Although the significance of these findings will be discussed at greater length in the discussion and conclusion sections two comments are warranted here. First, it comes as no surprise that participants raised concerns about the lack of useable conflict specific research. Much of early management research identified highly effective strategies for managing visitors,

but was unfortunately not very effective at dealing directly with user conflicts. Parks Canada operates through the use of its Guiding Principles and Operational Policies. Of particular relevance to the issue of outdoor recreation conflict is the guiding principle concerned with appropriate visitor activities. The management of visitor activities under the guiding principles stipulates the use of the Visitor Activities Management Process (VAMP) as well as a number of direct and indirect management strategies, such as zoning, rationing of use limits and education and information (Parks Canada, 2006). These would appear to be “band-aid” solutions that would not be capable of addressing, “...the social factors of conflict when it is occurring and where it is” (PCI 4), and despite these available management strategies, one participant was quoted as saying, “currently we don’t have any solid PC [Parks Canada] resource for how to deal with conflict on a trail yet that’s something that we’re working toward...” (PCI 2). Secondly, it still remains apparent that social science research has/is not receiving the level of attention when compared with ecological issues.

Optimistically, there does appear to be growing interest in the social science issues faced within Canada’s National Parks. One participant was quoted as saying, “...social science is pretty new in PC [Parks Canada], I’m not sure how many years...maybe 10 years at the most and it’s truly still ramping up...so our capacity is increasing and we’re more interested than we were in the past” (PCI 3). A review of Parks Canada’s environmental management system (EMS) reveals that they are much more advanced in their approaches to ecological integrity. The EMS “covers issue identification, the setting of performance measures and targets, the assignment of responsibilities and procedures, the tracking of progress towards targets, and the review of an organization’s environmental management goals” (2006). In contrast, regarding

social indicators, one participant said, “...right now there is a big gap there that we’re we’re all sort of struggling to try and fill so that we’re measuring the right things...” (PCI 3).

7.5.3 Access

Initial analysis had identified two separate “access” categories. One category was called, *Information Access*, the other, *Barriers to Access*. Further analysis revealed a much closer relationship. For example, there is not a clear division between how participants access information and the barriers they face in the process. It is for this reason that these two previous categories have been subsumed into one new category--called *Access*--that contains two sub-dimensions: *Information* and *Barriers*. For instance, comments regarding access to information also allude to that approach being implemented to overcome certain barriers. As one example, a participant was quoted as referring to time as a major barrier to accessing information. They said, “It’s a matter of time balance really you know it’s how much time, literally, I went through university as well, the literature research and keeping up with it, it takes a lot of effort...” (PCI 5). Another participant spoke more generally about access saying,

Well probably partly it’s a function of a bunch of things, partly it’s a function of access which is kind of lame but it’s the case, actually we don’t have the same sort of access to academic journals, it depends on what we subscribe to, what PC [Parks Canada] subscribes to so I find personally find that I may not have all of the information there...(PCI 3).

Separate participant comments regarding access to information help to illustrate how such barriers are overcome. “We just hire the company that did the literature review, so that we can see all the aspects of the impact on the environment and the social impacts and stuff like that” (PCI 1). Another participant said,

Well it would also often go to contract, like I just did a contract with someone...outsource to third party I want a literature review on topic X and then you know you’re getting um the most recent material you know this is, these are the people that are going to have access to the full suite of academic journals that also have experience in synthesizing the

information...that's probably more likely the way we would go vs sort of monitoring key journals to see what's coming up. (PCI 3)

Unfortunately, outsourcing every time new literature is required is not possible and this same participant said, "Yeah, yeah, managers have to do that vs having someone that you could say get me all the literature on x, y, and z..." (PCI 3). Another participant said, "...but if it's for a new activity we're going to start with what we have and then we're going to look into the literature what is, what else can we use, what's being done say in the US parks, what's being in the umm, in the Australia, what's being done elsewhere" (PCI 1).

Gaining access and therefore overcoming barriers to access also appears to be handled by various social scientists that work for Parks Canada. In response to accessing academic information one participant said that, "...it's kind of a capacity issue so I mean when you have when you have social science function in your organization that just increases your capacity to access that kind of information and better use it yeah for sure" (PCI 3). Similarly, "We have our own social science we have our own social science program, we kind of rely on those specialists to do the pure consultation with adjacent land owners and international, umm, you know so if we have specific questions..." (PCI 5). The role of the social scientist appears to be quite large, especially in terms of retrieving and providing the necessary information for managers to help inform management decisions.

...their role would largely be creating, would largely be conducting these studies vs sort of management so we would sort of identify here are the questions we need answered, we need to know if there is conflict on trails we need to know umm who's using the trails we need to know...what are the social science factors of enjoyment or are people being displaced that kind of thing and then that's what theoretically our social science group takes those questions and figures the best methodology to create the study, basically carries that out and reports back in a year or two years or whatever timeline is...(PCI 3)

This demonstrates an investment on the part of Parks Canada to increase its social science capacity. Investigation into this very issue in 2003 found that, "In the short term, Parks Canada

will focus on improved social science research and monitoring that is integrated with other science and decision-making” (Kachi, 2003, p. 3). Based on my current findings; it would appear that social scientists are proving very useful in improving access to social science information and the collection of relevant social science data.

The limitations faced by managers to be able to adequately access research information were clearly articulated by participants. The most reported barrier to access was time, followed by funding, and then by the pace of decision-making.

Table 38
Barriers to Accessing Research Information

Time	Funding	Pace of Decision-Making
<p>“...you’ve got a thousand other things to do too, it’s very difficult to find the time to properly inform yourself right...” (PCI 3)</p>	<p>“I think earlier what are some of the barriers to using or engaging research and they’re often they may be funding related that’s it’s, we we sort of configure our park budgets on an annual basis and that’s your one time window usually to get a project funded and there’s a lot of competing priorities and you know sometimes road fallen apart or whatever that take precedence...our funding cycle is is potentially a barrier” (PCI 4)</p>	<p>“Another one is decision-making timing, and sometimes the time frame to resolve a decision which is a really unfortunate, but it may be a 6 month time frame and you cannot often get out and get a study that’s going to help you inform that decision that’s chronic problem...the pace of decision-making doesn’t accommodate that that need...” (PCI 4)</p>
<p>“...I mean that would be nice I would like to do that (laugh) I will never have the time to do it...” (PCI 3)</p>		
<p>“...they [managers] don’t usually have the time to delve too deeply into a lot of things...” (PCI 3)</p>		
<p>“..for me getting, they’re interesting if I have time, um, on a personal professional level from the application of what I do yeah, it’s not, just time wise it’s not something I can use all of the time” (PCI 5)</p>		

7.5.4 Information Use

This section contains a large amount of information related to how, why, and the types of information used by Parks Canada. These sub-dimensions were each initially individually isolated categories believed to capture comments by participants regarding (a) the types of

information used by managers, (b) how information was actually used, and (c) why academic information was used. Closer examination found that these isolated comments were in fact telling a story of sorts regarding the making of informed management decisions. An example of such a story will be provided at the end of this section. Some examples of the types of information, how and why it is used, will begin the section.

Not surprisingly, participants identified several different types of information that they used. One example was pieces of information collected and filed by various national parks and Parks Canada Agency over the years. One participant said, “in terms of resources that we have um we have a little bit of resources that are available, stuff that’s been documented by parks through studies and different guidelines that have been created” (PCI 2). This same participant went on to identify a number of specific documents: “...we have our national trail manual, which is currently being updated...we also provide a lot of other resources um in terms of trail classification, trail monitoring guidelines...” (PCI 2). When asked about the use of research, specifically incorporating theories and models into decision-making one participant said,

Well it would be both if it’s let’s say for monitoring if there are different models and if there’s something more specific for a special activity or a special event or whatever like I’m talking for our division then for sure we’re going to be looking for that, but then if there’s just information cause we need more information...on that we’re going to use it also...we kind of look for both depending on what type of activity (PCI 1)

In response to the same line of questioning another participant had this to say: “Yeah, and we do look to all of that. We’ve got a series of people here [social scientists] who kind of look at research from a different perspective when developing sort of background documentation, what we’re looking for is is specific theories, specific methodology” (PCI 2).

Despite participant recognition of the importance of and implementation of academic research they are also quick to point out occasions when more practical information is needed.

For example, when asked about using theoretical versus practical information one participant said,

...well probably intuitively like the highly theoretical is often just not very accessible by anybody unless you're really well well versed in that particular field so I maybe that's well that's my opinion for sure and I think we're also looking for things that are more practical and you're going to spend the time and the effort to understand the practical more I think than you are the highly theoretical because you'll see the link to how you can apply it in your own context (PCI 3).

This particular participant elaborated further by highlighting the importance of having "tools":

...in terms of usability one of the things that we do a lot in parks right and probably all federal agencies are this idea of tools...people are always looking for a tool...national office develops the trail conflict tool and you take the tool which could just be a survey it could be a template for survey with questions that are really going to help you get to the heart of the matter and that's the tool with some explanation of...we're doing this a lot and I see umm and I'm in my current position doing a fair bit of tool development and people are desperate and hungry for it because it just makes their life so much easier and and they don't have to figure out a lot of the design themselves, it's already been something that's that's vetted and makes sense and works... (PCI 3).

Another participant echoed this sentiment saying:

...having tools ready to go I think is really useful like a conflict is something we're going to be needing to measure down the road...and having tools on the shelf that are sort of ready to go, they may not be a survey instrument but they may be you know a literature or a tool, this is how to go about it and how to enrich that research will be really useful... (PCI 4).

Participants largely reported that this research information was used most often to inform management decisions and to help foster "on the ground" solutions. For instance,

...we definitely use a lot of the resources that are existing and if a resource is well done and understandable we'll actually just adopt that document or that piece of resource. In terms of something like conflict um, what we may end up doing is getting a whole bunch of literature like this and um developing our own guidelines out of that... (PCI 2).

In terms of informing management decisions, it was made clear by one participant: "...we may be seeing summaries or or products or syntheses that say this is what we know about all of these

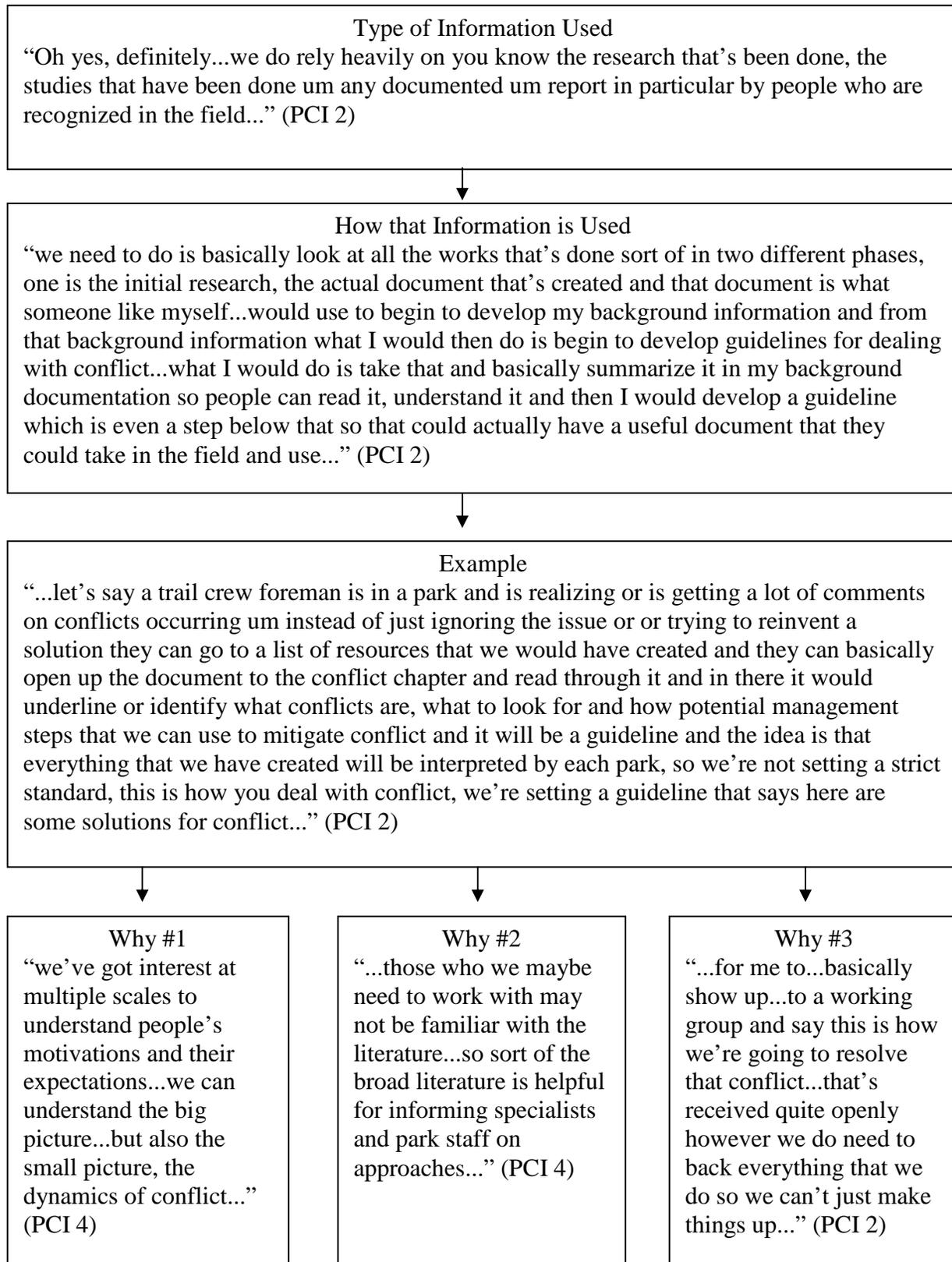
aspects and here's a possible course of action or a set of options and then we as managers discuss that and may require more information or analysis, but proceed to decision making" (PCI 4).

Why academic information was used in the first place was summarized nicely by one participant saying, "we're trying to I guess update our management approaches to those to better resolve ecological problems and visitor experience problems and conflict...and doing it systematically through social science or other approaches" (PCI 4). Another participant also provided excellent justification for the inclusion of academic information. He said, "...people want to know that their fees are being paid for...we do report back to [the people], it's called the state of the parks report every five years, the social science is evolving as a program of doing that for years" (PCI 5). It would also appear that park managers as well as senior management are recognizing the positive contributions that research can make. For instance:

...I think we're growing to be more and more investment based and certainly our senior management and our organization is continuing to push us in that way and I think in the not too distant past we made a lot of investment decisions based on expert knowledge of staff, which is an important resource but sometimes that's done through the lens of what we think people need...(PCI 4)

Perhaps, however, the best way to understand the interconnectedness between types of information used how it's used, and why can be seen in Figure 15 below.

Figure 15
Types of Information, and How and Why Used



The example above is particularly telling of how park management attempt to utilize research on a daily basis. Despite the theoretical nature of most research, the end goal for management is a practical tool to aid with management decisions. If anything, this should make researchers acutely aware of the importance of making research useable. In the field of recreation and leisure studies, the relevance of leisure theories and therefore the transfer from research knowledge to practice has been pondered and debated (Hemingway & Parr, 2000; Shaw, 2000). Concerns have risen regarding the insularity of leisure research (Samdahl & Kelly, 1999), inhibiting its applicability in real-world circumstances. It would also appear from the above figure that management incorporate research for three different reasons. First is justification from a theoretical stance; the basic need to understand human behaviour will often begin through awareness of the research. Second is a practical justification. The need to ensure that all staff and people working on particular issue understand even the basics of the literature is vital to the successful management of any issue. For solutions to work “on the ground”, requires that the research knowledge to be understood. Finally, the third justification is from a community perspective. Implementation of solutions to problems (e.g., conflict) and the allocation of resources to solve those problems can often be justified through academic research. Managers can no longer simply implement solutions based on what they feel is best or based on their biases. Recent work has found that research knowledge from academic journals receives infrequent use by practitioners (Xiao, 2006) and sadly it is often intuition and personal experience that are utilized for management and policy decisions (Xiao & Smith, in press). It is therefore encouraging to know that the managers in this study are making great efforts to use research to inform their decisions.

How information is presented plays a crucial role in the adoption of research.

7.5.5 *How Information is Presented*

With reference to the adoption of innovations or research ideas Wright (2003) says, “the research community needs to... spend more effort presenting them to the management community in a way that makes them easier to adopt” (p. 6). Comments by participants under this category concerned how academic information is or should be presented, with specific concerns regarding the format and layout and the fact that research isn’t always presented in a manner that makes it easily consumable by managers/practitioners. The take-home findings from talking with each of the participants was that research needs to be succinct, user friendly, easy to understand, and transferable. One participant said, “so I think it has to be like worded, or presented like in a short format and easy to understand that’s for sure” (PCI 1). The succinct nature of the research document is important because participants previously identified time as a major barrier to research adoption. This exact concern was echoed by one participant, “I’ll often have executive summaries because you really want decision makers to have access to the information and their time is pretty tight and so if you can’t convey it really succinctly and graphically it might not get picked up” (PCI 4). Research is often very complicated, and, even worse, research vocabulary can be very difficult to decipher. As one participant put it,

...if things are for example jargon laden it quickly reduces the, the pick-up that sort of thing and plus people like myself or staff may be brokers of information to members of the public so having material that really easily understood by us and easily translated to the public to try to get them or working groups that sort of thing is really useful (PCI 4).

The difficult part for researchers is making complex theory understandable for somebody outside of his/her academic field but working on a practical level.

...what we particularly look for in the development of guidelines is theory and methodology that actually is understandable, like if I present a document that um is a little too deep a little too difficult for people to understand they won’t look at it, um and particularly with theory if the theory and the methodology are you know difficult to

understand then people will tend to not dismiss yet set aside for something a little more um realistic in scope I suppose (PCI 2).

The dismissal or avoidance of research was also mentioned by another participant. He said, “Yeah, that’s that’s critical because if it’s not I think if it’s not easily consumable and understandable it may not get picked up and used” (PCI 4). This individual goes on to say that “...they [consumable/understandable documents] make a point and it’s kind of bang, bang, bang, bang, and some people never figure that out and as a result even good work can be harder to consume and apply because it’s it’s just not communicated effectively...” (PCI 4).

The problem with most research findings can be traced to the different preferences researchers and managers have for the research including how the knowledge is disseminated. Manning (1999) recognized that most academic research has been basic (i.e., driven by theory or conducted for the purposes of developing a theory) as opposed to applied (i.e., conducted to address broader societal issues), which has impaired management acceptance and adoption of research findings. Findings from research are often difficult for managers to directly apply because “...research problems are defined too narrowly and abstractly to have much application...” (Manning, 1999, p. 293). Based on the current findings, it should be clear that managers require two things: (1) practical solutions to real-world problems in the form of “tools”, and (2) that research information be presented in a manner that permits transferability to the practical realm by being succinct and easy to understand by a diverse audience.

However, effective use of academic information is not only dependent on what has been published, whether or not Parks Canada has access, and whether or not the research is consumable but, as will be outlined next, on the working relationships that are developed and maintained between researchers and park managers. Melzer and Ellis (2009) conducted a

literature review and identified four features of effective science-policy integration. Three of the four had some mention of relationships. Aside from research needing to be (a) relevant, (b) “relationships, partnerships and collaboration need to be enhanced and maintained” and a (c) framework to facilitate relationships is required in order to develop (d) trust between individuals and institutions (p. 236-37).

7.6 Relationships with Academics

Developed in the 1970s and 1980s, the two-community theory describes the low use of social sciences research by practitioners (Xiao & Smith, in press). The fundamental idea behind this theory is that producers (researchers) and users (practitioners) exist in two culturally different worlds. To use a metaphor, the overcoming of bridges, gaps, and vehicles is paramount in this theory. A systems theory on the other hand describes producers and users of knowledge as two functionally different social systems, where the concern surrounds how interaction and knowledge transfer can take place (Xiao & Smith). Hemingway and Parr (2000) believe that “Leisure research and leisure practice are independent professional paradigms between which a relation must be constructed” to ensure interaction and the transfer of knowledge (p. 139). It is for this very reason that participants were asked about their working relationships with researchers. Preliminary analysis of participant responses related to their working relationships with academics identified six separate themes. Continued analysis revealed that only three categories of responses existed (i.e., Relationships, Communication, and Barriers/Challenges), each containing several different themes.

7.6.1 Relationships

Participants commented quite extensively regarding their working relationship with academics. Their responses stressed three different attributes namely, *importance*, *quality*, and *building/maintaining relationships*. Regarding the importance of their relationships, two participants said, “I think it’s important and we try to develop that like last time we did an assessment we had a student from Simon Frasier University...it’s not all the time that’s for sure but, um, that’s something that we encourage” (PCI 1), and “So I think it’s something that’s really valuable...and I think it’s something that we’re interested in doing more and more...” (PCI 3).

Participants were also asked to reflect upon the effectiveness or their perceived quality of the relationship. It was also apparent that participants were each responding quite differently based on their personal experience/involvement. For instance, “Well I would say yes and as I say...I’m not directly dealing with those academics but uh for the times that I had to work with them it was good” (PCI 1). Meanwhile, “...every park is going to be a little different, the mountain parks, Jasper, Banff, they um...there will be a better relationship between someone like yourself and that park, it’s because you’re using those parks for studies...” (PCI 2). Finally, another participant said, “...they [academics] didn’t really play a very a highly academic role, um though a couple of the individuals that sat on [the advisory group]...were able to review some of our science for us, some were able to sort of help validate some of our finding so that’s really really useful...” (PCI 3).

Building/Maintaining relationships is quite important to managers. It would also appear that not only are managers interested in building new relationships, but that they also rely quite heavily on already developed relationships. A quote that clearly illustrates this point came from one participant, who said,

...I think a lot of managers will have or...whomever, but will have certain key contacts that they go back to time and time again because they know they have a bit of a working relationship if you know that the academic person might, will sort of build up some familiarity with the park in our case and whatever our issues are so that becomes really valuable and we'll have a better understanding of the research they are doing and what information they can provide so it's sort of I think it's largely a relationship thing (PCI 3).

Another participant described their relationships similarly saying, "...at any given time I usually have a a sort of an ongoing network of people I interact with from time to time who may be in the grizzly bear field, the caribou field, uh cultural resources management and historian people..." (PCI 4). Developing new relationships is also vital for managers. As one participant put it, "...the other thing you know I tried to do is attend conferences...you attend conferences where you can actually link with academics and find out what they're doing and we're always interested in getting people to you know have students apply their research..." (PCI 3).

Similarly, "...a lot of networking occurs and long-term relationships and connections stem from there [conferences]" (PCI 4). Yet another participant said, "...again its opportunistic, like I met [Penelope] at a SAMPAA conference and had some correspondence and would like to do more work with people like her and yourself" (PCI 4). The unfortunate part is that one of the participants felt that they had to be the one to initiate contact otherwise relationships wouldn't develop: "Totally. Yeah, I think it is yeah, you've got to be interested to do, otherwise it won't happen...generally" (PCI 3).

7.6.2 *Communication*

While discussing their working relationship with academics, several of the managers made comments regarding communication. Specifically, participants made comments about the *origin* of the information they received, the *process* for how things are communicated, and finally comments concerning ways to *improve* the communication process.

The origin of the information appears to emanate from three different areas. For example, (a), "...to be honest most of the information that I get gets passed down to me or over to from the social science department..." (PCI 2); and (b) "...like for this last literature review we had to hire a company to do that cause we don't have access..." (PCI 1). Another said that the origin depends: "Well our social science staff are really really busy they can't do that but sometimes we have to go like hire a company like to give a contract for people to look for that" (PCI 1). Finally, (c)

...the other way that we do get stuff is is like with regard to trail information is I do have a National working group so I have people all over the country um you know from parks out East, parks out West, parks in the middle and what they'll do is is if a discussion comes up around something like let's say conflict and let's say Jasper's been working closely with you, somebody may actually send me your document and say here's something that's been done in our park um a lot of people use the parks for research, it's really fortunate that we can actually use that information (PCI 2).

Interestingly, none of the participants directly mentioned academics (e.g., university researchers) as the origin of information that they use. Nonetheless, they are able to access relevant academic information through their developing social science program, outsourcing, as well as through inter-communication between parks (e.g., National working group). It may be that academics are serving more of a consulting role once a particular research project is underway. More analysis of this dynamic is provided in the discussion section. These findings were however supported by comments from participants regarding the communication process.

One participant was quoted as saying, "...our social scientists are the practitioners for theoretical stuff that comes out of the university, the academic side". They elaborated further by saying, "...they have to take theories they get from the academics too and put it into practice to gather the information and summarize it and give a report, then they've got to give the next step...is to you know to us in a way that it allows us to answer those questions or ask more

questions” (PCI 5). Although contact between academics and managers does occur, it seems limited, and more likely to occur between other staff members working with Parks Canada. One manager, with regard to communicating with academics said, “...yeah we do, it it may not I may not see quite as much of that, I get some contacts like that, but sometimes that occurs at the level of say our biologists or park planners that uh are networking more intensely...” (PCI 4). This is interesting because current knowledge management literature does not recognize the inclusion of intermediaries working between academics and managers, whose job it is to network, collect, decipher, and forward useable findings onto managers.

Several participants reported a strong desire to improve the communication process, offering potential solutions while also providing some perspective. One participant said, “Yeah, I think it’s I think it’s like I said it’s coming, well in parks, I speak for myself more than anybody...it’s a learning experience you know it’s just it’s a part that we’re not really familiar with as much as holistically in parks, we’re getting better as the years...” (PCI 4). This same participant also said that to, “...develop more of a vocabulary and a bit of a just a core understanding of those key principles [research language]” would go a long way to helping to improve the communication process. The concern from several of the managers was that the communication process often took too long. The diffusion of innovations theory (Wright, 2003) recognizes the time element involved in the adoption of new knowledge and concepts into actual practices. The “time lag” between the introduction of an innovation (or idea, practice) and its complete integration into practice varies because of the multi-stage adoption process. Concern by managers over the length of time required to effectively communicate and adopt new information is warranted given that they clearly identified time as a barrier to using new knowledge. One participant said, “...is there a way to streamline that so it doesn’t take you so

long...is there a way of streamlining that process from the social to the practitioners..” (PCI 5).

Although Wright said that the research community needs to “...spend more effort presenting them [research] to the management community in a way that makes them easier to adopt” (p. 6), one of the managers offered another possible solution. He said,

...part of that common understanding that you gain over time allows you to ask questions that are in a way probably more meaningful to the social scientists and to the academic, you know it feeds back that way you know so if I’m more, if I have a better understanding of some of these principles, mood states, and appraisals, if I have a just a general understanding of what those really are then I can ask those questions...it would help streamline that process... (PCI 5).

It would seem, based on findings from this present study, that managers recognize that they need to become more familiar and knowledgeable regarding research vocabulary. The responsibility should not solely be on the researcher to ensure that his/her research is understandable and jargon free. An increased vocabulary and understanding on behalf of managers, would also greatly improve the adoption of new information. The point was summarized nicely by a respondent who said: “...it’s just having a basic awareness of what some of the theory, the general theories, whether they be conflict management or user expectations or whatever, just have some of those common theories so you’re talking at the same language...I would expect our scientists would have it, but we wouldn’t as managers in the park...” (PCI 5).

Participants identified three primary barriers or challenges to building relationships: time, budget and relevance of conferences. Barriers in fact, can occur at any stage and may include a lack of awareness, lack of interest, lack of necessary information to understand the knowledge and may even occur during implementation (Wright, 2003). Table 39 provides a list of participant comments regarding their perceived barriers to relationship building.

Table 39
Barriers to Relationship Building

Time	Budget	Relevance of Conferences
<p>“...it’s sometimes it’s just time capacity opportunities those kinds of things are the barriers” – T/JD-16</p>	<p>“...yeah there’s budget realities, budget and travel restrictions so there’s certainly a lot...” – T/JD-17</p>	<p>“...I think it’s just opportunity, so again conferences are good, we, one of the criticisms that I hear a lot and it’s probably valid is that managers often don’t go to conferences...” – T/JD-17</p>
<p>“...in our bigger scale of time and resources I don’t see us getting more involved in that side of things...well well closer relationship in the analysis and reporting and stuff” – T/B-18</p>	<p>“...it’s not because of say relevance or purpose, sometimes it’s umm just what’s going on or funding like we would love to be able to fund more research and we could get a lot more going on but if you just don’t have the money to catalyze research you’re just not going to have those conversations and discussions because you can’t get started...” – T/S-9</p>	<p>“..there are avenues like uh conferences that we attend as much as possible...there’s chronic criticism that those conferences that that it was often scientists and technical people attending and the whole purpose of that conference was to engage management and scientists and there weren’t enough managers going, so they’re always trying to crack that nut, how to make it more relevant or how to you know keep the dialogue going...” – T/S-9</p>
<p>“so they can go through and do their survey and they’ll get qualitative and quantitative data and we’ll gather that all up and get it back to me and it might tell me some of the root causes, but then I’ve got to still interpret that (laugh) into some sort of meaningful action...” – T/B-18</p>	<p>“...part of that is just funding and opportunity so um, with those challenges again of funding sometimes our first level of opportunity is just to do something in house like with our social scientists or depending on our circumstances you know come up with seed funding and work with the university to do something broader” – T/S-9</p>	

It would appear that given more time, money and opportunity, managers would be happy and willing to network and build more working relationships with academics.

7.7 Executive Summary

Study number one proposed and validated a multi-dimensional, multi-item emotions-based outdoor recreation conflict scale. In light of concerns raised about the usefulness and usability of highly theoretical research, the current qualitative inquiry was also intended to help evaluate the usefulness and usability of the proposed scale by Parks Canada management staff. Jasper National Park managers were provided with an executive summary of my research findings. Managers were asked to comment on the usability/usefulness/applicability of the proposed theory, while also being asked to identify any barriers or limitations associated with the scale. By including this additional line of questioning, valuable information was retrieved that not only will aid in the general improvement of knowledge transfer, but more importantly, will help refine the development of the proposed scale into a potential “tool”. Such research findings are important because, “...although broad management audiences are exposed to scientific information through a variety of avenues, awareness of new approaches and techniques does not necessarily transfer to active use of new management practices” (Wright, 2003, p. 2). Analysis of feedback regarding the executive summary revealed six separate categories:

Misunderstanding/Confusion; Applicability; Relevance; Quality of Document; Potential Benefits; and Barriers/Concern.

7.7.1 Misunderstanding/Confusion

This theme reflects comments by participants about confusion over contents of the document itself. This may have been something related to layout, or how I achieved my results, or they weren't sure of the process I followed for a particular aspect of my research. It should be noted that not all participants reported confusion; only two participants provided such feedback. The first individual was uncertain about how I developed my scale items. She said in the

interview, “How are you, how do you ask those questions...the statements, like how do you get to those, like what questions do you ask to get those things...did they have to say that they were frustrated with several other people...?” (PCI 1). It was clear at this point in the interview that she was unclear about where those statements came from and their purpose. A short discussion/explanation helped to clarify. The second individual seemed to report getting lost requiring them to re-read portions in order to fully understand. Much of the problem may have been associated with the use of research or scientific terminology. His comments included: “where I actually start to get a little bit lost um and I had to re-read it a few times was when we got into the scale evaluation...”, “I’ll have to admit that I had to read through it twice um just because there’s a lot of references...this is where I can really see the social science...”, and “...this is very heavy science methodology which is wonderful stuff which is great stuff but I actually had to stop a couple of times and re-read sections just to fully understand it” (PCI 2). These findings support previous comments by participants that they prefer research that is easy to understand and free of jargon or highly technical terminology. Conversely, improved managerial understanding of the scientific vocabulary would have also greatly improved the comprehension of the document.

7.7.2 Applicability

Importantly, managers saw evidence of the proposed scale being applicable to their management needs. Comments here reflected where participants saw or how they saw themselves actually applying the scale. Generally, participants felt the specificity of the scale made it more applicable to only certain situations. For example, “..if it’s for a generic survey yeah I think it’s too much...but if we’re using it to to see what the conflicts are between the users then it’s great...” (PCI 1). This person went on to explain that,

I wouldn't feel like a visitor would need this but then if we implement a new activity then we want like other people around...say we let people kite surf, we want to see people on the beach, people canoeing, like other people and the kite surfer wants to see how they can deal with space together...so that's a place where I really see this (PCI 1).

Someone else said, "...on an individual case basis...it would be a useful tool...on a bigger scale if I looked at the overall conflicts umm, it may be a bit too specific for those from what I see right now" (PCI 5). It seems clear that managers did not see the scale as being appropriate for general use, but rather when specific answers are needed regarding the interactions of particular groups of people or activities. Another participant saw a completely different use for the document. Namely, "...what I would do is take that and basically summarize it in my background documentation so people can read it, understand it, and then I would develop a guideline which is even a step below that so that people could actually have a useful document that they could use in the field" (PCI 2).

7.7.3 Relevance

Feedback here reflected comments by participants that they thought I was doing excellent work, that they saw a place for my research in the literature and in their management efforts, that my work was overall very interesting to them and their work, and generally that they saw importance and value in the type of information that I had retrieved. This is critical because in the field of recreation and leisure studies, the relevance of leisure theories and therefore the transfer from research knowledge to practice has been pondered and debated (Hemingway & Parr, 2000; Shaw, 2000). Concerns have risen regarding the insularity of leisure research (Samdahl & Kelly, 1999), inhibiting its applicability in real-world circumstances outside the confines of the field. The following comments help illustrate the relevancy of my current research for parks managers:

“It definitely is something that’s of interest to me and the reason that I’m particularly interested in this view of conflict um is because there is a little bit of work being put towards...the emotional aspect of trail design and trails, not necessarily from a sustainable construction perspective but from the perspective of the human perception of the trail” (PCI 2).

“..where your information has started to hit a little bit on um aligns itself a little bit with...the whole idea...conflict may not actually be a direct confrontation but it might be a hiker who sees a widened trail that’s full of horse hooves that have created quite a bit of damage to that well that suddenly creates that emotional conflict or that emotional controversy” (PCI 2).

“I think that where you are trying to go is great, I’d like to see more of it in terms of the sort of the human perception of trails um, so there’s ton more research that needs to be done in terms of conflict I would like to see more work being done along the lines of what you’re exploring right now” (PCI 2).

If anything, it seems that my research is providing a new welcomed perspective on how to view and understand conflict. In fact, Schneider (2000a) recognized the need for an improved understanding of outdoor recreation conflict.

7.7.4 Quality of Document

Participants also made general comments about the quality of the document. These were not comments concerning applicability or relevance, but more that they were pleased that I had included something, or that they liked the manner in which I presented something. For instance, one participant said, “The overall layout of the document is great, like executive summary with the conclusion...things that I look for right off the bat are the executive summary and then I’ll go to the references” (PCI 2). Another said, “...so with the introduction and background I think was well written, got my attention right away and that’s around the occurrence of conflict in parks in increasing and that made me want to read your paper...” (PCI 4). They also appreciated that I had included several key park visitor characteristics (“That’s quite useful” - PCI 4). Participants also liked the wording of my scale items (“I like I like the way they’re worded” – PCI 4) and that

I had also included positive items along with the negative statements (“That’s good to know that you did have the positive side of it...” – PCI 2).

7.7.5 *Potential Benefits*

These comments were initially thought to be related to *relevance*, but were separated because it was believed that they were highlighting potential benefits beyond the scale simply being relevant. One particular participant summarized the benefits quite well:

...benefits for sure, I can really see some benefits...when we really begin to evaluate conflict quite often what we’ll do is go back to the way we’ve always done things and quite often the way we’ve always done things is is we’ll go to the sort of worst case scenario right off the bat so we’ll actually go towards enforcement or closure...what your document is doing is actually starting to create a new perspective that may actually create new management solutions for dealing with conflict and solutions that aren’t necessarily um uh harsh solutions...what you’ve tried to do here is give us a better idea of what people are doing, what’s really happening and why these issues are occurring um sometimes the management, the solutions that we have may actually cause a greater emotional conflict or emotional impact on the trail... (PCI 2).

7.7.6 *Barriers/Concerns*

Participant comments here reflect insights that the scale/model is impaired by certain aspects of its design/creation, therefore presenting a potential barrier to its future use. One criticism has been that conference presentations and lengthy publications only promote awareness of new approaches and do not lend themselves to immediate application. According to participant comments this is what may be occurring here. Three comments by one of the participants really help in bringing this issue to the forefront: (1) “...if I were to present the document that you created to our field units and ask them to use it in the field they wouldn’t use it, it’s a little too too in depth a little too detailed, it’s a little too deep I guess...”; (2) “I can make an assumption that your planning that...all people involved with recreation on public lands will have an issue with conflict and this is who your target audience will be and if that’s the case then what you’ve created is a little too in depth for someone to actually go into the field and use right

now”; and (3) “...it’s good information but it’s not providing me with the um the best methods to take it to my, the field units and say here use this and let’s actually use this modelling method...and start to gather more information” (PCI 2). Another participant was concerned that the negativity of the statements would be a barrier, saying, “No it’s clear, but for me it’s really negative...it’s really comprehensive, it’s easy to understand, questions are easy but...I think it’s a lot” (PCI 1). It seems likely that my document has promoted awareness of new information and information that participants themselves said was valuable. Unfortunately, it also seems that in its current state it would not be applicable or usable. Much of the reason may be because it is not presented in a way that makes it easily consumable and understandable. Resource managers often require a level of understanding of a new approach that can only be achieved through specialized training or handbooks in order for the implementation of new approaches to be effective and successful (Wright, 2003). This should also serve to re-emphasize the importance of ensuring the readability and transferability of research.

7.7.7 Conclusion

The data presented here support the general thesis that there exists a gap between the social science research that exists, in particular research related to outdoor recreation conflict, and its actual usage. Managers commented specifically regarding a lack of important conflict information (e.g., standards of quality for conflict in the park) and the current social science limitations because of its infancy throughout the national park system. A surprising finding was that managers acknowledged that they typically have very little contact with academics/research not affiliated with Parks Canada. Academics may be consulted later for clarification specifically if they are a noted expert in the particular field of interest. Managers also acknowledged that they have a group of academics that they will contact and that they (managers) consider

relationships with academics important and worth building and maintaining. Managers also recognize the barriers (i.e., time, budget, and relevance of conferences) inhibiting the improvement of current and future relationships. Direct communication of new research findings most often came from social scientists working for Parks Canada, whereas communication with outside academics was largely for consultation to confirm park research findings. This communication structure suggests that Parks Canada social scientists work as intermediaries in the research communication process, whose role is largely designed around the retrieval, synthesis, and presentation of research to park managers. Managers also stressed the importance of “streamlining” the communication process so that relevant research could be more easily communicated in a shorter time-frame. Although managers demonstrated a strong interest in engaging the scientific literature on their own, they were plagued by lack of personal time, budget constraints, and restrictions resulting from the fast pace of decision-making in the park.

Additionally, evidence shows that most research continues to be presented in a manner that is still largely problematic for parks managers to understand and apply effectively. Most comments by managers emphasize the need for research to be presented in a way that is understandable, succinct, making research consumable and transferable. The key word for all managers was “tools”. They needed information that could be taken and easily transformed into a tool that would allow them to specifically address conflict-related problems. It was for this reason that managers were asked to comment on my theoretical conflict research. Overall, my research was very positively received and considered to be very relevant in terms of what managers wanted. They most appreciated the fact that I was examining conflict from a new and different perspective. Although they could see future applicability of my scale as a potential “tool”, the document that they were presented suffered from a lack of immediate

“consumability”. This was largely because the document was found to be too technical and, as a result of this, methods for applying the scale were not completely understood.

In conclusion, park managers seem eager to embrace current and future social science and conflict-related research; in fact they openly acknowledged the need for more of it. However, it is important that research producers be sensitive to managers’ time restrictions and how information is best presented to them.

7.7.8 Validity and Limitations

In an effort to improve the validity of my research findings I incorporated a number of specific techniques. One way to improve the validity of qualitative research is to “...collect extensive amounts of rich data” (Charmaz, 2000, p. 514). One of the approaches typically involved in qualitative research (although it is often more closely associated with a grounded theory methodology) is an approach called theoretical sampling. “Theoretical sampling refers to data gathering directed by emerging concepts...” (Corbin & Holt, 2005, p. 51). By incorporating theoretical sampling, I would have: (a) increased the time I would have spent in the field collecting data, and (b) been able to develop of deeper understanding of the emerging concepts by interviewing key informants who may possess a unique knowledge of my area under investigation. In essence theoretical sampling would have been used to develop my “...emerging categories and to make them more definitive and useful” (Charmaz, 2000, p. 519). Unfortunately, the ability to remain longer in the field involved with data collection was restricted because of time and budgetary constraints.

Because of this I was not able to incorporate member-checking (Patton, 2002) or what Leedy and Ormrod (2001) call, respondent validation. Leedy and Ormrod state that “The researcher takes his or her conclusions back to the participants in the study and ask quite simply,

Do you agree with my conclusions? Do they make sense based on your own experiences?”

(2001, p. 106). This approach would have been particularly useful because the intent of my study was theory development. Having the opportunity to verify with participants my interpretations of their responses would have added significantly to the validity of my findings. Member-checking may have also revealed any gaps in my interpretations prompting further data analysis and subsequently could have been used to direct further data collection.

In a related technique for improving the validity and accuracy of the collected data I would have utilized snowball sampling. The technique allows for the interviewing of additional individuals as the researcher becomes aware of them throughout the research process. This technique is especially important when trying to achieve saturation within the qualitative data. Interviews with the current sample of individuals did unearth additional people worthy of contact for interviewing. This approach was not implemented because, of (1) budgetary limitations, (2) time constraints, and (3) it was believed that saturation had been achieved following analysis of the initial five interviews.

7.8 Results Recap

Several conclusions can be taken from the findings presented above. Quantitative evaluation showed that participants do not appear to be experiencing conflict and are reporting relatively high levels of visitor satisfaction. Most importantly, when conflict is perceived, it was associated with inappropriate/disrespectful behaviours (i.e., dogs off leash, excessive noise, and damaging/disrespecting the natural environment) and that crowding, although still relevant, was much less of a concern for visitors (i.e., they didn't appear to mind encountering other users). Qualitative evaluation found that both the causes of negative emotions as well as participant descriptions of conflict contained direct mention of inappropriate/disrespectful behaviours,

suggesting that positive and negative emotions have the ability to adversely affect a person's experience. These findings suggest that (1) inappropriate/disrespectful behaviours appear to be perceived by visitors as conflict, and (2) that negative emotions may be the result of experiencing/witnessing such behaviours. The established validity (i.e., construct & predictive) and reliability of the finalized 13-item emotions-based conflict scale is perhaps most significant, because it provides a potential means of evaluating, predicting, and better understanding visitor emotional reactions to conflict experiences, particularly those triggered by inappropriate behaviours. Notable were the scales' correlations with visitor satisfaction, place attachment, and conflict. Regression further established all three emotions dimensions to be the best predictors of conflict above and beyond other conflict related variables. Finally, these findings were agreed to be important and valuable by Parks Canada managers, although immediate applicability was impaired by the depth (i.e., the findings were presented in far too much detail and needed to be simplified) and technical (i.e., wording used throughout contained too much academic jargon) presentation of the document. These were also general concerns regarding all academic research and not simply my executive summary. Managers' eagerness to learn more about the causes of outdoor recreation conflict, to maintain current and develop new relationships, to develop in themselves a stronger scientific language capacity, and interest in streamlining the academic-manager communication process are encouraging for the field of recreation and leisure studies. Understanding and improving the current knowledge transfer process will also require consideration of the role of "intermediaries" (i.e., social scientists, National Working Group, park planners, etc).

CHAPTER EIGHT

Discussion

8.1 Introduction

Interest in outdoor recreation conflict was spurred in the 1960's because of increased participation rates and diversity in the types of recreational activities available. Consequently, recreation conflict has become one of the most common yet difficult challenges with which managers must contend (Hammit & Schneider, 2000). Well documented research from the 1980's (i.e., Bury, Holland, & McEwen, 1983; Jacob & Schreyer, 1980; Lindsay, 1980) continues to be the foundation of current research attempting to provide greater understanding of outdoor recreation conflict as well as to devise solutions appropriate for application in our National and wilderness parks. Contemporary examinations of outdoor recreation conflict have focused on the root causes, variables, and underlying factors that cause conflict (Confer, Thapa, & Mendelsohn, 2005), however demand has increased for more theoretical approaches to understanding conflict and why it occurs (Manning, 1999). Based on this demand, the first two purposes of this dissertation were: (1) to evaluate a new and expanded model of outdoor recreation conflict and (2) to develop and validate the reliability of a multi-item, multi-dimensional conflict scale.

However, the basic nature of most theoretical research has been cited for its limitations when attempting application in real-world scenarios. Theory is understood to represent a system of interconnected ideas that organize knowledge about the social world (Neuman, 2000). Manning (1999) recognized that most academic research has been basic (i.e., driven by theory or conducted for the purposes of developing a theory) as opposed to applied (i.e., conducted to address broader societal issues), which has impaired management acceptance and adoption of

research findings. Theory, however, always guides more applied research, it is just that theory can sometimes be less apparent in applied research (Neuman). Theories can be very complex. Problems with application arise because managers more often than not are required to cope or deal with complex social science issues, such as outdoor recreation conflict, with information unfamiliar to them. Barriers to incorporating scientific knowledge into land management cited by researchers and managers are explained in a couple of ways. One criticism has been, for example, that conference presentations and lengthy publications only promote awareness of new approaches and do not lend themselves to immediate application. The principle of parsimony (simpler is better) suggests that the simpler, less complex theory is the better one when multiple, equally convincing theories are presented (Neuman). Therefore, problems with application may be because theory is too complicated and not communicated in an appropriate fashion to promote understanding. The desire to reveal the true reasons for the concerns surrounding theory and theoretical knowledge and to develop an understanding of how to improve theoretical knowledge transfer constituted the motivation behind the inclusion of a qualitative investigation of the knowledge transfer process being employed in Canada's national parks. Based on the above, therefore, the third purpose of this dissertation was to investigate the outdoor recreation conflict knowledge transfer process within Canada's national parks.

The remainder of this chapter is divided into five sub-sections. The first sub-section (i.e., 8.2) broadly describes participants' experiences and insights and provides context for what follows. The second sub-section (i.e., 8.3) discusses emotion, namely the causes and influence of positive and negative emotions on participants' recreation experience. Information here substantiates the importance of including emotions as part of a new conflict understanding, and thus addresses the first purpose of this research. The third sub-section (i.e., 8.4) addresses the

second purpose of this study through a discussion of the proposed scales' validity and reliability. The fourth sub-section (i.e., 8.5 to 8.9) presents a brief discussion of relevant conflict variables. The discussions serve to reinforce the importance of certain conflict variables and the necessity for them to be given consideration whenever recreation conflict is being studied. And the final subsection (8.10) addresses the third purpose of this study (i.e., to investigate the outdoor recreation knowledge transfer process).

8.2 Participant Experiences and Insights

In this study, international travelers comprised over 50% of all participants. All told, 22 countries were represented with the top three comprising the United States of America, followed by England, and then Germany. Participants were also on average older and mostly male. Lehto, O'Leary, and Lee (2001) noted older people as being more active travelers than 10 years ago. It is also generally accepted that middle-aged and older adults tend to have more discretionary income because of retirement and being empty-nesters (i.e., children no longer living at home) permitting more time for travel. Collins and Tisdell (2002), in their analysis of Australian travel data from 1998, found that males dominated travel by Australian residents in all age categories except for one (15-24).

8.2.1 Place Attachment

What makes the large number of international travelers interesting relates to their reported levels of attachment. Place attachment has been well researched (e.g., Kyle, Graefe, & Manning, 2005; Low & Altman, 1992; Proshansky, 1978; and Williams & Roggenbuck, 1989) and has garnered attention as a potentially important variable for helping to explain conflict occurrences (Manning, 1999). Results showed that participants considered Jasper National Park to be very important (46.5%) and important (22.8%) to their overall trip. Although this may not

be too surprising because it would be a safe assumption that international travelers wishing to specifically see and spend time in Jasper National Park (JNP) would place a high importance on the park. However, the majority of participants expressed some level of attachment to the park itself. Although participants were asked if they felt an attachment to JNP, additional investigation into the specifics of the attachment or the strength of attachment were not examined in any additional detail. Given the high importance placed on JNP and high reported levels of attachment, recent work has suggested that it is possible to have an emotional response to a particular place just because it is beautiful (Smaldone, Harris, & Sanyal, 2008). Similarly, these researchers found no difference between first time and repeat visitors when it came to developing an emotional connection to a place and the place meanings they developed based on physical setting. Such a relationship would seem plausible in the current investigation as a large majority of participants considered the experiencing of a Canadian mountain national park to be either important or very important, and were also highly motivated to enjoy the scenery and to be close to nature. Smaldone et al. also found evidence to suggest that “newcomers” to a place foster an attachment based on environmental features, which may logically be the case here, especially for the international visitors.

The reported level of attachment may also be more closely linked to its functional value or “place dependence” (i.e., a particular place/location is important because of its functional importance or value to the recreation experience). Moore and Graefe (1994) have found that place dependence can develop faster than more intense attachments linked to place identity (i.e., “the emotional and symbolic meanings recreationists ascribe to recreation settings” Kyle & Chick, 2007, p. 209). Kyle et al. summarize this well by saying, “...that a place can be considered important to an individual because of its functional value. In the context of many

recreational settings, users of specific resources can also be dependent on them because of their unique ability to facilitate desired experiences” (2005, p. 155). This may also be the case here. As proof there was considerable disagreement regarding the substitutability of another location capable of satisfying desired recreational needs. Manning referred to this as resource substitution. Only 8.5% of participants strongly agreed that they could easily substitute another location for JNP. The largest group of 21% was neutral, suggesting that they were unsure whether or not they could find a suitable replacement. Among these individuals, recreation goals may have been a factor. For example, approximately 50% of participants were international travelers and 59% of participants were motivated (i.e., very important) to experience a Canadian mountain national park. Canada does have other similar parks (e.g., Banff National Park), and if participants had not had the opportunity to visit another park, it would not be inconceivable for some of these participants to be unsure about location substitutability. Stedman (2003) found that landscape attributes did contribute to people’s place meanings related to place attachment; it may be particular landscape attributes (i.e., characteristics) that give a place its inherent appeal both functionally (i.e., place dependence) and for deeper emotional connections (i.e., place identity).

One of the problems with how place attachment has traditionally been conceptualized is that deeper meaning and attachment has required an enduring relationship or connection and a prolonged involvement with the place (Relph, 1976; Tuan, 1977; Schroeder, 1991). Smaldone et al., (2008) did find in their study of the role of time in place attachment development, that for non-residents (visitors), “there appeared to be no relationship between the amount of time they had spent in the park, and being able to identify and discuss a special place within the park” (2008, p. 496). It is however, possible that the strength of the attachment changes over time (i.e.,

with prolonged engagement) and may evolve into deeper meanings associated with higher levels of place identity whereby an individual begins to associate whom they are with particular attributes of a place. The role of long-term versus immediate attraction (See Kitayama & Markus, 1994) may have also been variables acting to account for the higher than expected levels of attachment in the current study. Kitayama and Markus's perspective suggests a temporal component to the development of place attachment. What they were differentiating between was immediate attraction (which may help account for higher than expected levels of attachment for first time users/visitors to an area) and long-term social ties (that help explain the higher level emotional place identify bonds that form with repeated usage over a given period of time). This perspective as well as that of place dependence versus place identity, "suggest that every person-place bond has its locus within an ever-changing temporal scale that provides a critical context affecting that bond" (Smaldone, Harris, & Sanyal, 2008, p. 500). From these perspectives, "Time should be viewed as a necessary but not sufficient factor contributing to place attachment" (p. 500).

8.2.2 *Crowding*

Crowding has also become an important variable to consider when conducting research on outdoor recreation conflict. Crowding has typically been reported as a problem in many wilderness areas and theoretically explained based on the premise that individuals are seeking solitude while recreating in the wilderness (Manning, 1999). Findings from the present study indicate however that only approximately a quarter of participants encountered more people than they felt was desirable. Similarly, only 15% said that they were motivated to avoid encounters with other trail users. Therefore, at least within the present study, meeting people does not appear to be a concern for visitors. At least one other study has had a similar result, with Pan

and Ryan's (2007) study of the motivations behind visitation to mountain areas suggesting that people may not be motivated specifically to avoid people, but are instead motivated to avoid the hustle and bustle of daily life.

8.2.3 Disturbance

Research (e.g., Arnberger, Haider, Eder, & Muhar, 2010) that has posited that there is a need for outdoor recreationists to be away from other people was also weakened in the current investigation by the fact that the majority of participants reported that they were not easily disturbed by other people around them. Almost three-quarters disagreed to some degree that they were easily disturbed. For comparative purposes, Kalisch and Klaphake (2007) found that only 6.8% of visitors to a German national park experienced some level of disturbance. However, it must be noted that this opinion did vary between activity groups in my study with hikers reporting the most disturbance. Carothers, Vaske, and Donnelly (2001) found that hikers reported greater cases of unacceptable behaviour when mountain bikers were the user group in question, but reported the fewest instances when evaluating other hikers. In addition, Reis and Higham (2009) found that "reports of conflict were the exception rather than the rule" and that there was a higher level of acceptance between hunters and hikers (p. 104). Finally, results from Tumes (2007) suggest that walkers don't mind coming into contact with mountain bikers, provided mountain biker behaviour is perceived to be appropriate (i.e., not riding on designated walking-only trails).

This finding, when combined with the above that people do not appear to avoid encounters and that people seem to rarely encounter too many other people suggests a relatively high level of tolerance. Reis and Higham (2009) found a high level of tolerance and acceptance to exist between hikers and sport hunters. This was even more remarkable given the anticipated

and actual value based differences between the two groups. In her study of recreation group interactions and conflict at Mt. St. Helens, Gilden (2004) found that visitors "...expressed an unexpectedly high level of tolerance for other groups" (p. 11). Such high levels of tolerance may have existed within the present study's sample.

It is also possible that another explanation exists for the lack of crowding concerns among participants of the present study. It is widely recognized that "Crowding norms are generally defined as visitor-based standards that individuals and groups use for evaluating behaviour and social conditions" (Arnberger & Mann, 2008, p. 561). It is possible that different European normative standards are at least somewhat responsible—an important consideration given the large number of European participants in this study. Close examination also found that the differing visitation numbers between national parks in Canada and the United States may also have played a role. Canada appears to have relatively low levels of visitation, especially when the size of the park is taken into consideration when compared to examples from Europe and the United States. Generally, however crowding has simply not been viewed as an issue within European parks. Compelling evidence exists supporting this notion. For instance since the 1980's only 16 European crowding studies have been conducted and up until 2008 perceived crowding has not been a topic of visitor or household surveys (Arnberger & Mann). "In most Southern, Eastern - and several Central-European countries...crowding is not recognized as an issue for forest recreation research and management" (Arnberger & Mann, 2008, p. 566). Much of this is attributable to the diverse landownership structure comprising mostly small-scale private ownership with a few publicly owned pieces of land (Arnberger & Mann). And in Germany a free access policy has limited the availability and ability to obtain important visitor data (Job, 2008).

Different visitation numbers and sizes of parks may however be the simplest and most compelling reason to explain why crowding perceptions were so low in the present study. In Germany for instance there are 14 national parks with an average size of 687 square kilometres (Job, 2008). The combined size of all 14 German national parks is smaller than Jasper National Park. The largest park is 4,410 square kilometres, however 97.7% is water area. The largest land-based park is 247 square kilometres and the smallest is 57 square kilometres. Berchtesgaden National Park has a size of 209 square kilometres and received 1.1 million visitors in 2002. German parks are small and the country's population is more densely packed. It may be that Germans coming to Canada have a different experience because of the vastly larger space. The United Kingdom experiences a similar situation with high visitation and relatively small park sizes. For example, Yorkshire Dales National Park is 1769 square kilometres and receives an annual visitation of approximately 9.5 million visitors (National Parks, 2010). Peak District National Park is even smaller and receives even higher levels of visitation (1437 square kilometres and 10.1 million visitors annually). The United States suffers from the same level of excess visitation. The most widely visited national park in the U.S. is Great Smokey Mountains with an annual visitation of almost 9.5 million people (National Park Service, 2010). Great Smokey Mountains is also a small park at 2072 square kilometres. In comparison to Canada's national parks, particularly JNP receives relatively little visitation for its overall size. JNP is 11,228 square kilometres, significantly bigger than any of the above mentioned parks and received only 2,054,877 visitors throughout 2007-2008 (Parks Canada, 2008).

The expectation that visitors to parks in the U.K. or Germany are experiencing some amount of crowding seems likely and it is unfortunate that appropriate research and information

has not been collected. Low crowding perception in JNP in the present study may be connected to standards of quality that international visitors develop in their own countries and bring to Canada while visiting. Visitor usage is much greater internationally and therefore visiting Canada may result in the exceeding of previously established crowding standards causing international visitors to perceive or experience significantly less crowding. Some of the most important findings however, were discovered when asking participants about the specific behaviours of other visitors.

8.2.4 Unacceptable Conflict Behaviours

Because “user conflicts...safety concerns and inappropriate user behaviour may negatively affect different user groups...” (Arnberger, Haider, Eder, & Muhar, 2010, p. 809), it was important to understand those behaviours that detract or have the potential to detract from a person’s recreation experience. Participants in the current study were asked to indicate from a series of behaviours, those that would be most likely to detract from their recreation experience. Although over 58% of participants said that encountering many other people on the trails would somewhat detract from their experience, only 10% said it would significantly detract. Analysis of the previously presented data regarding crowding suggests that people are overall very tolerant of meeting people. The more significant problem may relate to specific behaviours and have less to do with number of people encountered. Participants more clearly identified certain behaviours as being the most problematic and therefore most likely to detract from their experience. Just over a quarter of participants said that dogs off leash would significantly detract, whereas just under a quarter said that use of unofficial trails, would significantly detract from their experience. Mann and Absher offered an analysis of conflict potential and surveyed a variety of different user groups (i.e., hikers, bikers, mountain bikers, horse riders, and

joggers/walkers). They reported that all groups identified feeling disturbed by unleashed dogs. Meanwhile Arnberger et al., found that male walkers were impacted the most by unleashed dogs. Regarding trail use, mountain biker use of designated walking-only trails was the greatest cause of conflict according to Tumes. My findings appear consistent with previous conflict work.

An even higher percentage (37.9%) of respondents identified excessive noise as likely to significantly detract from their experience. Recent research (Manning, Newman, Fristrup, Stack, & Pilcher, 2009) has identified “soundscapes” as being important for managerial focus when it comes to ensuring a quality wilderness experience. Their analysis found that “...‘peacefulness’, ‘quiet’, and ‘the sounds of nature’ had a positive influence on the quality of the visitor experience, and ‘noisy visitors’, ‘loud talking,’ and related issues substantially detracted from the quality of the visitor experience” (2009, p. 3). Positive and negative indicators of quality were also identified. Flowing water, birds calling, and wind blowing in the trees were good indicators that contributed to the visitor experience, while visitors talking and boisterous behaviour were found to be indicators of noise that would detract from the visitor experience. Their research also found that over 15% of participants were hearing visitor-caused noise that was louder than the identified social norm.

Perhaps the most significant finding was that 73% of participants identified disrespectful behaviour as likely to significantly detract from their experience. Specific types of disrespectful behaviour were not identified, however it is possible to speculate based on previously conducted research. Mann and Absher (2008) were able to classify behaviours based on whether they were related to infrastructure issues or social values. Garbage and vandalism were the two infrastructure issues with the highest conflict potential across all of the user groups (i.e., hikers, bikers, mountain bikers, horse riders, joggers/walkers). Social values conflicts caused by the

disturbing behaviour (e.g., riding too fast, too close, not giving signals) of mountain bikers was considered disturbing by horse riders and hikers. Tumes (2007) in her qualitative investigation of conflict found similar results. In her study, walkers didn't mind coming into contact with mountain bikers, however problems arose when mountain bikers were perceived to be undertaking inappropriate behaviour. Specific concerns surrounded the speed of mountain bikers startling walkers and/or causing walkers to have to 'jump out of the way'. Tumes was also able to identify that "inappropriate behaviour" had not previously been used as a variable to examine recreation conflict. This is unfortunate in light of previous and current research findings that have all identified inappropriate or disrespectful behaviours as serious concerns for recreationists with high likelihoods to significantly detract from visitor experiences. Similarly, Vaske, Needham, and Cline (2007), in their study of interpersonal and social values conflicts among skiers and snowmobilers, found that between one half and one third of skiers rated snowmobilers' behaviour as being problematic. Other serious behavioural concerns included riding out of control, being rude and discourteous, passing too close, and disturbing wildlife. Although skiers and snowmobilers were not involved in the present study the inclusion of inappropriate behaviours as problematic for four different recreational user groups should at least emphasize the need to begin to regularly include such analysis in future research.

8.2.5 Outdoor Recreation Conflict

In the present study 82% and 71% of participants strongly disagreed that they had experienced 'conflict today' and 'conflict in the past 30 days', respectively, while over 97% reported that they were satisfied with their recreation experience. Similarly, most participants across a variety of studies also appear to have experienced little outdoor recreation conflict and, overall, were satisfied with their experience. Mann and Absher (2008) found, for example, that

23% of their study participants were very satisfied and an additional 49% were satisfied. Vaske et al., reported that 36% of skiers, and 81% of snowmobilers, reported no conflict. Reis and Higham (2009) stated that:

the potential for conflict, and actual manifestations of conflict, are overstated. Despite differences, hunters and hikers seem to share the space and their experiences in a manner that is generally harmonious. In general, few negative comments were expressed in interviews and informal conversations with either hunters or hikers. In fact, both groups reported more positive than negative experiences (p. 103).

As a means of exploring causes and perceptions of conflict, participants involved with the present study were asked, in an open-ended question, to provide their own definition or understanding of what constituted outdoor recreation conflict. Qualitative analysis revealed four separate themes: (1) No Experience/No Conflict, (2) Inappropriate/Disrespectful Behaviour, (3) Crowding, and (4) People are Different. The most widely cited understandings of conflict revolved around inappropriate/disrespectful behaviour. This is remarkably consistent with previous research and provides additional support for Tumes (2007) and her suggestion that inappropriate behaviour should be included as a future variable when investigating recreation conflict. It's also remarkable in the present study that the majority of participants did not experience any conflict, but displayed tremendous consistency in the identification of inappropriate behaviours as the source of potential conflict occurrences. Participants specifically identified littering/garbage", unsafe behaviours ("Thoughtless or inconsiderate actions"), damaging the environment or disrespecting the environment, and disturbing and not respecting wildlife. Crowding was also mentioned by a number of participants. Again it would appear that although participants may not directly experience crowding, they are aware of crowding as a potential cause.

Previous research has found that people are relatively tolerant of meeting other people and that negative experiences/conflict is more likely to arise when meeting people is accompanied by inappropriate/disrespectful behaviour. The reasons for conflict occurrences found by Reis and Higham (2008) were comparable to the present study. Findings were also consistent between hunters and hikers. Hunters listed littering, visitor behaviour/activity showing disregard to resources, unsafe behaviours, and visitor behaviour/activity causing wildlife disturbance, visitor behaviour/activity causing track damage, and crowding as reasons for conflict. Hikers felt that littering, visitor behaviour/activity causing wildlife disturbance and visitor behaviour/activity showing disregard to resources, crowding and unsafe behaviours, and visitor behaviour/activity causing track damage as their top causes of conflict. Participants however, actually experienced very little conflict. Reis and Higham identified what they called a “mutual awareness of conflict concerns”. It would appear that a similar situation may be occurring in the present study. Although participants reported very little conflict, they remain acutely aware of behaviours/actions and situations that would create conflict. Most importantly, this “mutual awareness” appears to be fairly consistent between individuals of different users groups.

Clark, Hendee, and Campbell (2009) offered a compelling explanation for the higher than expected tolerance of individuals visiting a wilderness area. First, they were able to identify that campers expressed less concern about things such as nuisance behaviour when compared to managers. Their explanation was that, “...a new camping style [has] emerged with associated behavioural expectations less dependent on direct environmental contact, more compatible with highly developed structures, and increasingly social conditions” (p. 145). Although the present sample included others besides campers, they were users of the local trail network surrounding

the Town of Jasper. This trail network is connected to several campgrounds that would have been receiving extensive visitation/use throughout the summer months when the data were being collected. It is also possible that a portion of participants would have been tent or RV camping in the campgrounds surrounding the trail network. This new “camping style” may therefore be transferring to those hikers, bikers, walkers, etc that are using more heavily visited trail systems. In other words, users of trail systems that are closer to inhabited areas (e.g., the Town of Jasper), or that receive higher amounts of visitation, may be using them with different expectations than may have been anticipated. In this sense, users are more tolerant of meeting and engaging with people, but remain alert to the behaviours that will cause them to feel or experience conflict with another group or individual.

8.3 Role of Positive and Negative Emotions on Visitor Experiences

One of the primary goals of this research was to investigate the role of emotions, particularly negative emotions, on the recreation conflict experience. This section specifically addresses the first purpose of my research through the discussion of emotions and their role in the conflict experience. Previous discussion identified several behaviours or situations that would detract from a person’s recreation experience. When asked, participants said that “experiencing a negative emotion” would somewhat detract (53%) and strongly detract (21.3%) from their recreation experience. A closer look at participant emotions and the role they might be playing is necessary and supported by Tumes (2007) who said that, “Understanding the emotive feelings that result from a conflict experience is important when exploring recreation conflict” (2007, p. 52). Her comment represents an extension of the claim by Hull (1990) “that mood is a significant, prevalent and relevant product of leisure research” (p. 99). Hull used mood to denote subjective feelings present throughout everyday leisure experiences such as

relaxation, excitement, awe, and happiness. As highlighted below, subjective feelings are not always positive (e.g., stress).

Early recreation conflict research that sought to include emotions focused only on stress (e.g., Lazarus & Folkman, 1984). The relationship between stress and recreation coping was later expanded by Schneider and Hammitt (1995). Before them Knopp and Tyger (1972) were aware of the intense emotional reactions that could and were being generated between motorised and non-motorised recreationists. Because emotional reactions are diverse and can often be incredibly powerful, inclusion of a greater diversity of emotions is necessary to improve our understanding of emotions and their role during conflict experiences. Lazarus (1990) believed that the study of emotions, and not simply stress, could significantly contribute the recreation conflict understanding. The first study to my knowledge to adopt such an approach and to offer a more detailed account of the role of emotions during conflict is that by Vitterso, Chipeniuk, Skar, and Vistad (2004). More recently Tumes (2007) implemented a qualitative approach to exploring recreation conflict and her conclusions urge researchers to include some measurement of people's emotive feelings.

The present study confirmed that (a) visitors to JNP do experience negative emotions and that (b) these emotions have the potential to negatively impact upon a person's recreation experience. For instance, participants reported the impact of experiencing negative emotions and whether they would (1) ruin their experience, (2) cause them to stop participating altogether, (3) change activity, and/or (4) change locations. Most of this study's participants were neutral or disagreed that negative emotions result in any of the above reactions. However, changing locations and ruined experience were the two most agreed upon. Seven point two percent strongly agreed that they would change locations, with an additional 40% or so either agreeing or

somewhat agreeing. However, less than one percent strongly agreed that experiencing a negative emotion would ruin their experience. Such percentages may seem low and hence may appear to provide little support for the inclusion of emotions in the recreation conflict context. However, these numbers are greater than those for individuals who reported experiencing conflict on the date they completed the questionnaire and over the past 30 days. A total of only 6% agreed to having experienced conflict that day and 7% over the previous 30 days.

Vitterso et al. (2004) found that people tended to underestimate the negative effects of snowmobile noise when asked in a general survey, but conversely noted that the, “emotional quality was significantly reduced for cross-country skiers who encountered a single snowmobile being driven carefully alongside the ski track” (p. 239). Although it is possible that participants in the current study did not experience much conflict or underestimated because of the situation of being asked to complete a survey, it also seems possible that having people reflect upon the emotions that they experienced may provide a more accurate depiction of actual experience quality. The present study offered a definition of conflict as the “experiencing of negative affect”. The emotions-based conflict scale administered to participants proved to be the best predictor of conflict even when compared with asking participants directly if they had experienced conflict. Not all conflict situations/occurrences are the same and the diversity of emotional reactions may provide a better means of identifying conflicts and why they occurred. The richness of the data collected by asking participants about the negative emotions they experienced and why is not only more relevant for managers but also researchers. An examination of managerial opinions towards emotions and the proposed emotions-based conflict scale is presented beginning in section 8.11.

8.3.1 *Causes of Emotional Reactions*

Participants were asked to identify the positive and negative emotions that they experienced while recreating on the trails around the Town of Jasper. Overall, participants reported feeling far more positive than negative emotions. The most widely reported negative emotions were irritation followed closely by nervousness, then fear, frustration, and disgust. Additionally, participants qualitatively provided responses identifying the causes of their negative emotions. “Other users” were by far the most identified cause of negative emotions. Participants specifically mentioned crowding, horses (“Horses – the smell, droppings, bug up trails when it rains”), disrespectful behaviour (“Inconsiderate behaviour of others”), and litter and environmental damage (“People not treating park area with respect”).

These reported causes echo the characteristics reported in participant definitions of conflict previously discussed. In line with this research, previous work has also begun to identify these concerns, particularly disrespectful behaviour as closely related to reported conflict experiences. Schuster, Hammitt, and Moore (2006), for instance, approach conflict from the perspective of experiencing “hassles” as identifiable by the experiencing of the emotion stress. “The most frequent sources of hassles were litter, noise from other people, damage to the resources, and too many people at campsites” (p. 97). The only source missing in their study that was mentioned in the present study was horses. “Noise from other people” could be attributed as disrespectful behaviour. Comments by participants in the current study support this notion: “People who walk and talk loudly and therefore scaring the animals away”, and “People acting disrespectful (noisy, disrespecting signage)”. Recall too, that, Vitterso et al., (2004) found that the emotional quality of skiers’ experiences diminished related to the noise caused by snowmobiles. Tumes (2007) in her study of bushwalkers and mountain bikers, found that

participants used language such as feeling annoyance and disappointment following their conflict experience. The primary source of conflict in her study was the inappropriate behaviour of other users. Participants in the present study may be reporting similar feelings when they identified irritation, frustration, and disgust as three of the most experienced negative emotions. The bushwalkers in Tumes' study also reported feeling frightened, angry, as well as stressed. These emotions were largely attributable to the speed of the mountain bikers on the trails.

There is continued evidence to suggest that recreation forest users are bothered more by the actions and behaviours of others and far less by the number of people or encounters (Heer, Rusterholz, & Baur, 2003). Heer et al., found that hikers reported negative encounters "...with mountain bikers due to their high speed, lack of courtesy, crowding, and safety concerns" (p. 720). Carothers, Vaske, and Donnelly (2001) found that hikers reported more conflict when based on evaluations of mountain biker behaviour. Interestingly, mountain bikers reported higher levels of unacceptable behaviours. This is likely the result of mountain bikers witnessing the unacceptable behaviours of other mountain bikers for which they disagree.

From her study, Tumes concluded that, "Feeling angry or disappointed after a recreation experience may result in a person choosing not to return to the place where it happened or may even choose to not participate in that particular recreation experience..." (2007, p. 52). Reports from the present study found that participants were most likely to change locations as the result of experiencing negative emotions. Present study participants also reported fear and nervousness. It is possible that these emotions are directly related to specific visitor behaviours (i.e., mountain bikers passing too quickly or without warning), however it is also possible that these emotional reactions are associated with the type of activity being participated in. Boniface (2006) studied women and adventurous activities participation in the outdoors and discovered

that, "...several of the women identified feelings of fear when faced with challenges they were not sure they could overcome" (p. 14). This fear has been associated with physical, social, and psychological threats (e.g., mountain biking down a difficult hill). The fear associated with overcoming personal challenges may in fact be an expected and positive outcome of certain types of recreation participation; personal growth can occur after having successfully achieved a personal goal (Boniface, 2006). The fear related to an unexpected recreation encounter has the potential to negatively detract from a person's experience; differentiating between these two causes of fear is necessary if future research is to better understand the true nature of recreation conflict.

The fear and nervousness reported by participants may have also been linked to issues of "access". This category was split into two themes: (1) Unknowns Regarding Trail/Environment and (2) Restricted Access. A number of comments were reported regarding trail/environment unknowns, including "Riding a trail for the first time" and "Concern regarding the unknown if on a new trail". A lack of knowledge of the trail system was relatively common among participants and was expected in light of the number of first time visitors. Only 33% of participants reported having some level of knowledge of the trail system and over 48% disagreed that they possessed knowledge of the trails. Stodolska (1998) considered some constraints such as lack of familiarity (with an area of trail system) to be dynamic or mutable in that they can be overcome, for instance, as knowledge of an area or activity grows. Walker and Virden (2005) found that outdoor recreation was strongly constrained by a lack of information and moderately constrained by poorly maintained facilities and equipment. The latter may relate to participant comments regarding a lack of appropriate trail signage or the confusion experienced because of missing signage. Conversely, Stokolska characterised a lack of access as a static constraint that remained

stable over time. Participants in the present study reported restricted access but also made specific reference to the cost or fees associated with using/visiting the park. Walker and Virden found that the expense associated with outdoor recreation participation acted to strongly constrain participation, but that high admission fees moderately constrained participation. Crompton and Kim (2004), like Stodolska found that cost was a constraint that remained stable over time. Comments from European visitors regarding admission costs are not surprising when comparisons are made between North American and European parks. As Job (2008) pointed out, Germany has a free access policy. Although neither specific constraints nor coping with constraints were examined in the present study, the experiencing of various obstacles while on vacation can elicit various emotional reactions. For example, access is restricted to individuals who possess concerns over undesirable social conditions (i.e., safety concerns), and who may make use of displacement (e.g., geographical or temporal) as a way of coping (Arnberger et al., 2010). It seems highly likely that safety concerns are potentially linked to emotions such as fear. It is unclear however whether an emotion (i.e., fear) acts as the constraint in the recreation experience. Emotions according to the emotional literature (e.g., Russell, 1980; Russell, 2003) are typically directed at something or someone. Therefore someone who is fearful of animals (see discussion below) will likely feel restricted about where they would feel safe recreating in Jasper National Park. This individual is therefore going to have to overcome their fear (i.e., the constraint) in order to expand their recreation possibilities. In other situations an emotion may exist but have nothing to do with overcoming a constraint. Suppose for example a person is restricted from engaging in recreation because of a lack of money. This person may be frustrated or angry that they do not possess enough money. It could be argued that the solution to their engagement in recreation is not overcoming their frustration or anger, but rather, in finding a

means to earn more money. The barrier or constraint in this case is not the emotion but the money.

Safety and weather related concerns were the other reported causes of participant negative emotions. Safety comments reflected either environmental or animal concerns. Environmental comments seem more closely related to the fears associated with participation in adventurous activities. “Challenges in the outdoors test emotional, physical, intellectual and spiritual competence to personal limits seldom experienced in every day life” (Boniface, 2006, p. 17). The feeling of fear and nervousness throughout such moments is natural and helps explain the reported emotions by participants. As will be discussed later, such experiences are also responsible for one of the key benefits of recreation participation in the wilderness: emotional well-being (Boniface). Negative emotions were also tied to the potential for animal encounters (“Nervousness due to possible encounters with wildlife e.g., bears”). Research on human-wildlife encounters is common (e.g., Leong, Decker, Forester, Curtis, & Wild, 2007) and produced a theory that suggested that people have an acceptance threshold (Vaske & Needham, 2007). This threshold is situation specific and limited by the severity of human-wildlife contact. Human-wildlife “...problems can be arranged along a continuum ranging from nuisance situations (e.g., raccoons dumping trash cans), to economic or aesthetic impacts (e.g., deer eating ornamental plants), to health and safety threats (e.g., Lyme disease transmitted by deer)” (p. 84). In the case of study participants the concern for health and safety was largely linked to the potential of encountering a bear while on the trail. Vaske and Needham point out that the “Increasing presence of coyotes in [the South Suburban Park and Recreation District of Colorado]...has resulted in human-wildlife problems (e.g., frightening residents...)” (2007, p. 81). The reported feelings of fear and nervousness by visitors to JNP would be expected because of

the nature of the surrounding area and its proximity to vast areas of wilderness home to various species including bears.

Finally, a small group of JNP visitors reported weather as the cause of their negative emotions. Although not all studies (e.g., Crompton & Kim, 2004) have included weather as a recreation constraint variable, research has found weather to affect levels of physical activity and that the relationship between weather and physical activity was similar for men and women (Chan, Ryan, & Tudor-Locke, 2006). Chan et al., found that "...the number of steps/day decreased rapidly for small amounts of rain..." and that the effect was equal regardless of gender or BMI (Body Mass Index (p. 5). The warmer the weather became the more steps/day were reported by individuals. Stodolska classifies weather as a mutable constraint, and therefore one that has a fluctuating effect on people. When people undertake a vacation they often hope for and expect "good weather" (e.g., sunny, warm). The negative reactions (i.e., in the form of negative emotions such as frustration) is expected and evidence from the current study suggests that weather can, at least, to a certain extent be responsible for some of the negative emotions associated with a recreation experience.

8.3.2 Inappropriate/Disrespectful Behaviour

By and large however, the dominant cause of participants' negative emotions was "other users" characterised by the witnessing of inappropriate/disrespectful behaviour. Although additional research is needed to identify what constitutes inappropriate/disrespectful behaviour, there was nonetheless high consistency between this and other recent work in the types of behaviours found to be most problematic. Behaviours such as littering, damaging the natural environment, dogs being off leash, noise, crowding, and reckless behaviour by mountain bikers have all consistently been acknowledged and were found to be the dominant causes of participant

negative emotions in the current study. Tumes (2007) urged researchers studying outdoor recreation conflict to include inappropriate behaviours.

8.3.3 Emotions and Recreation Conflict

More importantly, a growing body of literature has developed supporting the inclusion of a broader base of emotions in the study of recreation conflict. Tumes (2007) herself found that people reported several different negative emotions following conflict encounters. These included feeling frightened, angry, stressed, and disappointed. Previously Vitterso et al. (2004) found that the emotional quality of skiers' recreation experience was diminished because of noise caused by snowmobiles. Although stress has traditionally been the focus of emotion-based recreation research (Lazarus & Folkman, 1984; Schneider & Hammitt, 2000), the findings here and previously force future research to begin to include a broader emotional component. The value of including emotions in future recreation research was captured in the thoughts of Lazarus (1990): "I can think of no other concept in psychology that is as richly revealing of the way an individual relates to the physical and social environment, and to life, as emotions" (p. 12).

Human emotional reactions are thankfully not always or only negative. Recreation participation elicits numerous pleasurable emotions as well. Participants visiting JNP experienced far more positive than negative emotions. Happiness was reported by the greatest number of people, followed by enjoyment, and relaxation. Five dominant causes of these positive emotions were identified. These include nature/scenery, "getting away", activity/exercise, friends, and "other (God)".

8.3.4 Nature/Scenery Connection

The human connection to nature and fascination with understanding this bond is not new (e.g., McCleave, Espiner, & Booth, 2006). Relph (1976) defined "geopiety" as encompassing a

broad range of emotional attachments that exist between humans and their environment. The study of place attachment has provided the means to better understand the human connection to space, especially natural areas such as parks, lakes, rivers, and mountains. Such place bonding has been found to include feelings, affect, and emotions (Kyle & Chick, 2007). It is because of this that one can expect people to report often powerful positive emotions from their time engaged in the outdoors. But why a particular place is meaningful has been previously linked to symbolic interactionism: "...that the meanings people associate with the physical landscape are the product of interactional processes involving the individual, the setting and their social worlds" (p. 214). Beyond this, has been the body of literature concerned with the social construction of place and nature (e.g., Greider & Garkovich, 1994; Stokowski, 2002). "‘Landscapes’ are the symbolic environments created by human acts of conferring meaning to nature and the environment..." (p. 1) and these "...symbols and meanings that comprise landscapes reflect what people in cultural groups define to be proper and improper relationships among themselves and between themselves and the physical environment" (p. 2). Such constructions have given rise to a number of explanatory theories for the human-nature relationship. One of those is the "biophilia hypothesis" (Mayer, Frantz, Bruehlman-Senecal, & Dolliver, 2009). The biophilia hypothesis holds,

that people have a biologically based need to affiliate with and feel connected to the broader natural world...this sense of belonging extends beyond our city limits and includes a sense of belonging to the natural world. This argument suggests that when people are in nature and meet this need to belong, they will experience psychological benefits (p.610).

Research has also developed a means of measuring the human connection to nature with the 'Connectedness to Nature Scale' (CNS). CNS has been found to significantly predict life satisfaction and overall happiness (Mayer et al., 2009). It could be argued that the 77.5% of

participants who reported feeling happiness experienced some degree or level of connectedness to JNP. In the present study participants' enjoyment and connection to nature was experienced through things that they saw ("Mountain scenery"), the beauty of the natural surroundings ("Beauty of the landscape"), and simply by being present with nature ("The overall experience of being in a mountain environment"). Mayer et al. (2009) in their study of the benefits of nature examined the differences between participants walking in nature, in an urban setting, and watching videos of nature (virtual nature). They found that the people walking in nature reported more positive emotions when compared with urban setting participants and that nature participants had overall higher CNS scores. Increases in positive emotions occurred for the virtual nature; however the connectedness to nature and positive emotions was more dramatic for actual nature. Valtchanov, Barton, and Ellard (2010) studied the effects of virtual nature settings concluding that computer-generated nature can promote restorative effects (i.e., "reduction in cognitive fatigue, decreased stress levels, increased focus, increased positive affect, decreased negative affect, and decreased sympathetic nervous system activity" p. 503). A decrease in negative behaviours (e.g., aggression, anxiety, depression, and illness) has also been acknowledged (Mayer et al.). Park based recreation in the form of outdoor leisure activities has been linked to good physical and mental health (Leahy, Shugrue, Daigle, & Daniel, 2009). Nature provides a number of important human benefits. Most important however, is that humans appear to possess a need to experience nature, to connect, and to bond with it as much as possible. The result is an increase in positive human feelings and a decrease in negative ones that has been associated with greater satisfaction and overall happiness. It seems apparent that participants experienced and attributed many of their positive emotions to the beauty of nature, its breathtaking scenery, specific attributes of nature, as well as simply being "there". These

comments may also lend support to the contentions made by Manning (1999) that many of the natural and cultural features found in parks and natural areas can in fact “overpower” many of the other factors (e.g., resource settings, social settings, managerial settings, individual norms, values and preferences) influencing visitor satisfaction.

8.3.5 “*Getting Away*”

It also seems that people have a strong desire to escape or “get away” and that nature often becomes the outlet for satisfying such needs. Leisure and tourism pursuits have often provided the means for people to “get away” because of an underlying need to relax and seek rejuvenation (Nimrod & Rotem, 2010). In a study of retirees’ tourism, Nimrod and Rotem found that participants reported feelings of excitement, relaxation, and general enjoyment. After happiness, relaxation and enjoyment were reported most frequently by JNP visitors. Crompton and Keown (2010), utilizing data from Statistics Canada reviewed the benefits sought from pleasure travel. Rest and relaxation was regarded as the benefit of highest importance. JNP visitors were motivated by the need to achieve the same benefit. For visitors to JNP, their nature-oriented leisure experience may have served as “...as strategy for promoting life balance or counterbalancing other life stressors” (Trenberth, 2005, p. 5).

8.3.6 *Activity/Exercise*

The benefits to leisure participation are numerous. The act of being active for many people produces positive emotional benefits. One participant said, “Exercise equals being healthy and healthy makes me relaxed”. The benefits of leisure participation have been linked to increased longevity, a reduction in the causes of mortality, increased cardiovascular condition, the treatment/prevention of obesity as well as the alleviation of psychological conditions of anxiety and depression (Leahy et al., 2009). “Participation in 40 minutes of physical activity can

immediately reduce an individual's state of anxiety for up to three hours" (p. 62). Parks play a major role in supporting these individual health benefits (Leahy et al.). A number of individuals attributed their positive emotions to a challenge they faced and the associated adrenaline rush. Research suggests, "...that the pleasure and excitement experienced through taking part in activities such as mountaineering represent the antithesis of the stale emotions experienced periodically as a result of overall routinisation and restraint in western society" (Boniface, 2006, p. 11). Although fear and nervousness may be felt (as previously discussed) the outcome of an adventurous experience is overwhelmingly positive. Bikers and hikers in a wilderness setting are likely to experience greater challenge and uncertainty compared to people biking and walking in an urban setting. The reward and positive emotional outcome gained from outdoor adventure participation because of the "...necessity for participants to apply their personal competence – which might be physical, mental, emotional – to overcome the challenge and resolve the uncertainty" (p. 9).

8.3.7 Friends and Family

The importance of friends, family, and loved ones was also stressed by a number of JNP visitors as the cause of their positive emotions ("Being outdoors, exercising, spending time with family/friends"). Interestingly, research has "...reported that parents and adolescents who participated in challenging outdoor recreation together experienced increases in interaction, elevated levels of trust and support, improved communication, and increased affection and kindness" (Agate, Zabriskie, Agate, & Poff, 2009, p. 207). Family leisure has also been correlated to family life satisfaction which has been linked to happiness and positive emotions (Agate et al.). As a result, "Core family leisure involvement tends to facilitate feelings of closeness, personal relatedness, family identity and bonding" (p. 208). Crompton and Keown

(2010) found that nurturing family and friendship ties was another key benefit sought by Canadian pleasure travelers. Similarly, the benefits of retirees' tourism included social bonding, which revolved around the creating a sense of belonging and strengthening relationships (Nimrod & Rotem, 2010). Among the women involved with outdoor adventure pursuits, all "...place importance on shared adventure experiences which were seen to lead to the formation of close bonds and often long-term friendships with other adventure participants" (Boniface, p. 19).

8.3.8 *God*

Finally, a few participants connected their positive emotions to God; specifically His presence in nature. (e.g., "Just to be close to God and nature"). Leisure itself has been linked to spirituality (Heintzman, 2009). Spiritual leisure experiences may lead to feelings of "...comfort, peace, feelings of belonging, humility, introspection, personal development, connectedness with others, and creativity" (p. 421). Spiritual experiences have often been characterised as having a high level of emotional intensity associated with feelings of peace, awe, and love. Awe, in particular may represent the feeling participants had while witnessing "God's handywork". Fox's (1997) study of women's wilderness experiences found that participants' spiritual experiences were characterised by, "...feelings of elatedness, inner happiness, inner peace, joy, inner calm, heightened senses, and connectedness" (p. 62). Consistent with the present findings, awe and wonderment of nature were also reported.

Emotions are increasingly valued for understanding people's recreation experiences. Negative emotions can help explain conflict occurrences and are experienced throughout recreation experiences and are associated with a variety of causes (i.e., noise, inappropriate behaviour). For example, research has begun to explore the relationship between emotions and conflict (e.g., Vitterso et al., 2004), heeding the words of earlier work (i.e., Lazarus, 1990) of the

value and revealing nature of emotions. Present findings also reflect previous work regarding the numerous positive emotions tied to leisure experiences and their inherent causes (i.e., nature, friends, etc).

8.4 Scale Validity and Reliability

Below, discussion focuses on the second stated purpose of my research – to evaluate the validity and reliability of the proposed emotions-based conflict scale. Although previous leisure research has stressed the relevance of emotions (e.g., Hull, 1991; Hull, Stewart, & Yi, 1992), it has only been within the past decade that an increased interest in leisure-based emotions has occurred (e.g., Tumes, 2007; Vitterso et al., 2004). Development and evaluation of the validity and reliability of a multi-item, multidimensional emotions-based outdoor recreation conflict scale represented the primary purpose of this study. Empirical assessment of the scale's construct validity found preliminary support for a three-dimensional, 13-item scale. The predictive validity of the scale as it relates to outdoor recreation conflict was also substantiated.

A three-factor structure of emotions was specified a priori based on the psychological literature on emotions (e.g., Russell, 1980; 1999; 2003, & Russell & Snodgrass, 1987). Specifically, 23 items or measures were created and 13 confirmed to represent the three dimensions (i.e., latent variables) of emotions, appraisals, and core affect. These were three characteristics of emotions detailed in the work of Russell and others that were regarded as conceptually important when complete understanding of a person's emotions is required. Most importantly final results support the existence of these three dimensions as previously identified.

8.4.1 Emotion Dimension

There is however a few noteworthy details regarding some of the items that warrant mentioning. Re-evaluation of each of the items statistically representing the emotions dimension

(9, 13, 23, 24, 25, & 26) confirmed that they did in fact have something very much in common with each other. The wording of each of the items contained a strong element of crowding. For instance the ending of the items made specific reference to “other trails users”, “other people on the trail”, “other trail users around me”, and “I encountered too many other trail users”. Item 23 specifically used crowding saying, “the trail was so crowded”. Items 23, 25, and 26 were designed to elicit the element of appraisal based on the different wording when compared to items 9 and 13. For example item 25 “I was upset because I encountered too many other users” permitted respondents to identify the cause of their negative emotion. In comparison, item 9 “I was frustrated with several other people on the trail” was created to simply capture an emotional recreation. It seems likely that these items are loading together because of their phrasing connected to the common recreation problem of crowding. These findings are encouraging for the unidimensionality of each of these items, however it must be stressed that further validation will be required to establish that these items are capturing the emotional component as theorized and not simply the element of crowding.

8.4.2 Appraisal Dimension

It became readily apparent that the items found to measure the appraisal dimension also had an element of their wording very much in common with each other. These items (14, 17, 20, & 21) all relate to the disrespectful or inappropriate behaviour of other trail users. However, they also maintain the appraisal component as originally intended. For example, item 14, “I was annoyed because other trail users were damaging/disrespecting the natural environment” permits a direct connection between a person’s emotion and a specific behaviour. Other behaviours captured by the items representing the appraisal dimension include, “careless behaviour of other trail users”, “not obeying appropriate trail etiquette”, and “disrespectful behaviour of other trail

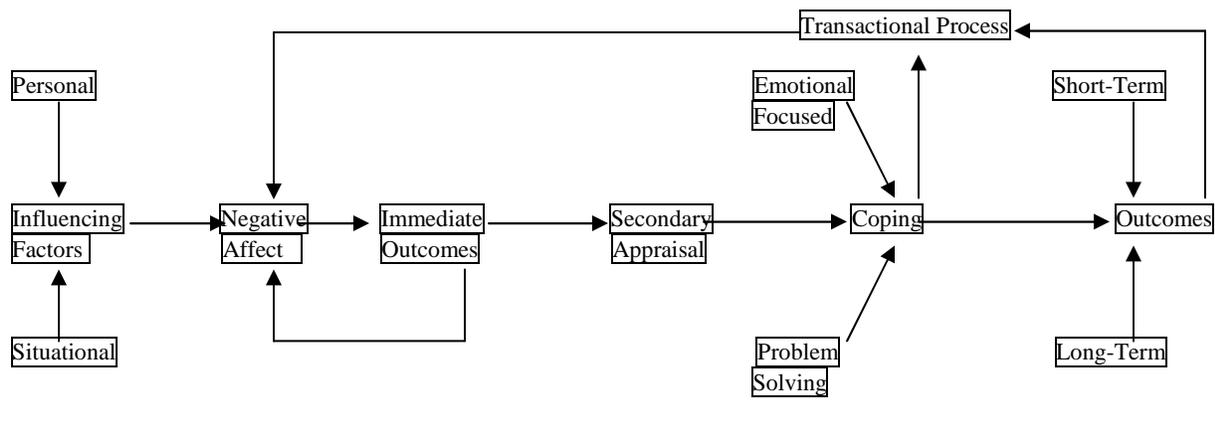
users”. This is an important distinction to make when compared to the items previously highlighted as measuring the emotion dimension. These items make more general reference to “other trail users”. It was only with items 23 and 25, that the specific element of crowding was mentioned. Taken without items 23 and 25, the remaining items are behaving as designed, with a focus simply on an emotion without a link to specific behaviours. It is suggested that additional assessment be conducted to ensure that the emotional component is in fact being measured and not simply the element of crowding.

8.4.3 Relationship between Emotion and Appraisal

Another explanation for the loading of the emotion and appraisal dimensions can be found in a re-examination of Russell’s (2003) work. In his work on emotions, Russell outlined what he called *prototypical emotional episodes (PEE)*, which he said accounted for or described everyday emotion-related events. PEEs contained (1) an antecedent event, (2) emotion(s), (3) affective quality, (4) core affect, and (5) attribution/appraisal. The antecedent event may be a negative recreation encounter, the affective quality refers to quality of the encountered event (whether it is positive or negative), and appraisal is an assessment of the effect the encountered event will have on our core affect. What is somewhat unclear is when and where the appraisal occurs and to what (i.e., the emotion or core affect) the appraisal is attached. For instance, Russell said that “an emotion is typically about something:...I’m angry *at* you, in love *with* you, or afraid *of* you; in these examples, the emotion is directed at you, and you are the intentional *Object*” (2003, p. 149). He also went on to describe attributed affect, which is a change in core affect linked to a cause. In this situation the *Object* is making the person feel the way that they do.

As a result it is possible to speculate that the appraisal may be attached to the emotion. My revised outdoor recreation conflict conceptualization proposed that conflict was negative affect represented by the reciprocal reaction of our emotions, core affect, and cognitive appraisals or attributions (see Figure 16). My findings appear to support the existence of these three elements, but because we are referring to “a complex set of interrelated subevents concerned with a specific object”, the order in which these elements occur is still uncertain (Russell & Barrett, 1999, p. 806). My scale specified the existence of an emotion (i.e., dimension one), the attribution of that emotion to an external event or Object (i.e., dimension two), and a resulting change in core affect (i.e., dimension three). This model follows that of Russell (2003), and current findings support the notion of emotion, appraisal, and core affect. However, it also seems plausible that emotion and appraisal are more closely linked. This is explained by the fact that the final emotion items and appraisal items share a remarkable similarity; they both identify an emotion and attribute it to a cause, whether generally, as in “other trail users”, or more specifically, “not obeying appropriate trail etiquette”. Future research may reveal that a single dimension is able to adequately capture the emotional and appraisal dimensions; however present findings support the unidimensionality of three distinct dimensions.

Figure 16: Revised Outdoor Recreation Conflict Conceptualization



² Adapted from Lazarus, R. & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer.

8.4.4 Predictive Validity

It was documented previously that although various leisure-based scales exist and emotions have been recognized as an important variable in the leisure experience, no earlier research had attempted to construct a measure of people's emotional reactions during a conflict occurrence. Some of the most promising findings from the current research and, that support the emotion-based work by Russell (1980 & 2003) were found in the established predictive validity of the proposed scale. Determining the predictive validity of the scale was critical because without the ability of the scale to predict conflict, it would simply be a well sorted list of items that, in reality, served little empirical function. Bohrnstedt (2001) said that "Validity is the sine qua non of measurement; without it, measurement is meaningless" (p. 3207). Assessment of predictive validity involved the running of multiple correlations between each of the dimensions and variables previously identified in the literature as associated with user conflicts (i.e., activity, gender, who travelling with, knowledge of activity, importance of Jasper National Park, importance of Jasper trails, recreation satisfaction, attachment, being easily disturbed, are you a

Jasper resident, education, conflict, disrespectful behaviours, goal interference, and knowledge of trail network).

For instance, differences between activity groups (e.g., hikers and bikers) are one area that has received a great deal of work (e.g., Bury, Holland, & McEwen, 1983). Results showed a negative association between the emotion dimension and activity choice, suggesting that hikers/walkers are more likely to agree with the emotion statements and therefore indicating that they have experienced conflict. This supports previous research that has found hikers to be more susceptible to feeling conflict. Heer et al. (2003) found that hikers reported more negative experiences and that the majority of those experiences were attributed to encounters with mountain bikers. Additionally, Carothers, Vaske, and Donnelly (2001) found that while hikers were more likely to experience conflict, mountain bikers were more likely to report unacceptable behaviours. This may be because of an in-group evaluation. Mountain bikers may simply be more aware of unacceptable behaviours of other mountain bikers. Social values conflicts caused by the disturbing behaviour (e.g., riding too fast, too close, not giving signals) of mountain bikers was considered disturbing by horse riders and hikers (Mann & Absher, 2008). Tumes (2007) in her qualitative investigation of conflict found similar results. In her study, walkers didn't mind coming into contact with mountain bikers, however problems arose when mountain bikers were perceived to be undertaking inappropriate behaviour. The majority of conflict research says that hikers are likely to be more sensitive. The emotion dimension proves capable of identifying these asymmetrical conflicts.

8.4.5 Predictive Validity of Appraisal and Core Affect

Conversely, appraisal and core affect were not as capable. Possible explanations exist. First, the emotion items make specific reference to "other trail users", which may be a better

representation of the asymmetrical nature of most conflicts when compared to appraisal items that make reference to specific behaviours (i.e., damaging/disrespecting the natural environment). It is possible that such behaviours were committed by a person of the same user group (i.e., no asymmetry existed). Interestingly, core affect appears to be the most salient component according to Russell (1980 & 2003) for understanding affect or emotion. Russell (1980) maintains, “my thesis is that affective states are, in fact, best represented as a circle in a two-dimensional bipolar space” comprising pleasure-displeasure and activation-deactivation (p. 1161-1162). Current findings support the existence of the core affect dimension; in fact, unidimensionality of the dimension was consistent throughout quantitative evaluation. Its lack of predictive power regarding conflict should not be unexpected. Russell (2003) said that, “core affect [or a change in core affect from happy to sad] can be experienced in relation to no known stimulus” (p. 151). So while core affect is important for understanding the affective state of people, by definition, it does not have to be linked directly to a stimulus or *Object*. It is possible that the emotion dimension and to some extent the appraisal dimension simply offer a more robust means of capturing reasons for conflict occurrences. Core affect may provide a more general or broader picture of changes in people’s affective mood states. For example, while it is critical that parks managers know that someone felt angry because of the actions of another individual, I also maintain that recognizing that someone’s affective mood state also changed from happy to distressed has importance for potentially understanding the longer-term impacts of conflict on visitor satisfaction.

8.4.6 Conclusion

The study of emotions remains a “very confused and confusing field of study” (Ortony, Clore, & Collins, 1988, p. 2). Emotionally applied conflict research has only begun to appear

(e.g., Vitterso, et al., 2004) and is therefore in its infancy. The present findings establish that emotions are not only an important component of the recreation experience, but of conflict as well. Much work remains, however what has been established here is a stepping-stone to improved conflict understanding and recognition of the need for increased emotionally-based recreation research. The final 13-item, three-dimensional scale is presented in Table 40 below. The following sections (i.e., 8.5 to 8.9) provide the reader with critical information concerning several conflict variables. The information provided is meant to reinforce to the reader the importance of certain variables whenever conflict is being examined.

Table 40
Finalized 13-Item Three-Dimension Emotions-Based Conflict Scale

Emotions Dimension
1. I was frustrated with several other people on the trail
2. I felt annoyed by other trail users around me
3. I was upset because I encountered too many other trail users
4. I wasn't able to enjoy my leisure experience as much as I hoped/wanted because of an encounter with another group of trail users
Appraisal Dimension
5. I was annoyed because other trail users were damaging/disrespecting the natural environment
6. I became annoyed because of the reckless and careless behaviour of other trail users
7. I became angry because other trail users were not obeying appropriate trail etiquette
8. I felt distressed by the disrespectful behaviour of other trail users
Core Affect Dimension
9. My recreation experience today became very unpleasant
10. I felt tense (as opposed to calm and relaxed) during my outdoor recreation experience
11. I experienced a change from feeling happy to feeling unhappy during my involvement in my outdoor recreation experience
12. My mood changed from feeling relaxed to feeling anxious
13. I became nervous while engaged in my outdoor recreation experience

8.5 Recreation specialization

Research into the role of recreation specialization and serious leisure has suggested that individuals with higher levels of knowledge will experience greater amounts of conflict.

“Compared to beginners, experienced recreationists tend to have better skills, are more focused on the activity, and are less tolerant of goal interference by another’s behaviour (Vaske, Dyar, & Timmons, 2004, p. 217). The findings from Vaske et al’s study of skiers and snowboarders supported this contention, for both in-group and out-group conflicts. Stenseng, Rise, and Kraft (2011) studied obsessive passion and its correlation to leisure activity engagement. They found that participants who reported obsessive passion for their chosen leisure activity also reported more negative thoughts and emotions when prevented from engaging in their activity. The current study findings suggest that the opposite may be occurring. The correlations between the core affect and knowledge/expertise about activity suggest that as knowledge/expertise decreases responses to core affect items are likely to increase (i.e., a person is more likely to agree that they have experienced a negative change to their feelings). Thapa and Graefe (2003) reported similar findings in their study of skiers and snowboarders. They specifically found that less skilled skiers and snowboarders reported more conflict and were also less tolerant than their more skilled counterparts. Ramthun (1995) found that sensitivity to conflict decreased as experience level increased, while Vaske, Donnelly, Wittman, and Laidlaw (1995) found no significant relationship between perceptions of conflict and reported experience levels.

From one perspective, it might be theorized that skilled participants are more sensitive to unexpected changes in their experience (e.g., witnessing disrespectful behaviour on the part of another user) because they have entered the experience with higher set expectations, especially if these participants bring with them more specific or intense goals. In this scenario less skilled individuals would have lower expectations for a given experience resulting in an increased level of acceptance of certain visitor behaviours. “Conditions that would be appraised as stressful by a more experience person (e.g., use density) might be dismissed as irrelevant by a less experienced

person” (Peden & Schuster, 2008, p. 500). The opposite might also hold true. Skilled participants would enter their experience aware of possible negative social situations and would possess a better ability to cope.

It is also not possible to make direct comparisons between previous research findings and the current data. Whereas previous research has utilized multiple measures of recreation specialization, the current study relied on participants’ self-judgment to one question. It seems likely given the mixed findings of previous research regarding the role of recreation specialization that additional variables are influencing participants’ reported levels of conflict. It is also important to remember that previous research has not found skilled and un-skilled individuals to be reporting the same levels of conflict. The current scale is still making the distinction between skilled and un-skilled. Further validation is necessary to better understand the predictive powers of the scale when it comes to participant skill levels and their reported conflict experiences.

8.6 Recreation satisfaction

Recreation satisfaction remains an important element of the leisure experience. Ensuring high levels of visitor satisfaction is paramount, unfortunately assessing actual versus perceived satisfaction can be difficult. For example, it is logical to expect that certain conflict related variables (e.g., crowding) would be highly correlated to reports of satisfaction. Manning (1999) reported that although previous research has found a positive correlation between crowding and satisfaction, the explained variance has consistently remained extremely low (i.e., approximately 2%). Meanwhile, other research (e.g., Strickland, 2005) has found a link between dissatisfied users and their reported levels of conflict. Results here show a small but significant correlation between each of the three dimensions and the question, “I am satisfied with my recreation

experience”. As satisfaction decreases participant responses to the items in each of the three dimensions is likely to increase. Although additional verification is required, the scale may prove to be a more accurate assessment of satisfaction levels. Whereas previous variables (i.e., knowledge/expertise) were only correlated with one of the three dimensions, satisfaction appears to be correlated with all three dimensions. This may result in a more robust and reliable measure of satisfaction especially for outdoor recreation. This is particularly important because Manning (1999) has noted that satisfaction tends to be over reported because of the positive influencing effect of nature.

8.7 Place attachment

Place attachment has become an increasingly important facet of people’s outdoor recreation experiences. Warzecha and Lime (2001) noted that, “...it is the values that people attach to places that are often at the heart of natural resource management conflicts” (p. 60). It was therefore surprising that current findings suggested otherwise; people with lower levels of attachment would agree more with the scale statements and hence, be reporting higher levels of conflict. This is opposite to the findings from Peden and Schuster (2008) who found a positive correlation between place attachment and stress appraisals in wilderness environments. Their measure of place attachment included place dependence, place identity, and place familiarity and therefore a direct comparison to the current findings cannot necessarily be drawn. Of note, previous research has found that high place dependence (i.e., a particular location serves a strong function purpose and is not easily substituted) can result in increases in conflict among users (Smaldone, Harris, Sanyal, & Lynd, 2005). In fact, findings regarding attachments in the current study were somewhat inconsistent. Attachment to JNP produced the expected positive correlation, however it was only on the emotions dimension and it was relatively low.

Participants reported slightly higher average feelings of attachment towards JNP ($m=5.40$, $sd=1.48$) compared to their attachment to the trails around the Town of Jasper ($m=4.84$, $sd=1.55$). Place attachment was however not the primary focus of the current study. It is possible that the use of multiple indicators for the various types of place attachment (i.e., place dependence, place identity) would have produced drastically different results. Findings did however establish that the proposed scale exhibits some predictive power when it comes to aspects of place attachment. Additional research using more robust measures of place attachment will be necessary to confirm this predictive ability. For instance, research has suggested that place attachment is comprised of cognition and behavior and is in fact “an interplay of affect and emotions, knowledge and beliefs, and behaviours and actions in reference to place” (Low & Altman, 1992, p. 5).

8.8 Importance of Trails and Park

Regarding importance of JNP trail network a negative correlation was found with the appraisal dimension. These results show that the lower the rated importance, the more likely a user will agree that another person’s behaviour negatively impacted their recreation experience. An explanation for this finding may lie in the make-up of the current sample. A large percentage of participants were international and first time visitors. Importance for them may not have specifically been tied to the trails, but more broadly to the park. Although this is true (mean scores of 6.18 ; $sd=.977$) for importance of JNP and 5.95 ($sd=1.172$) for importance of the trail network reveal that JNP was more important. Nonetheless, importance of the trails was still relatively high. Therefore, current findings establish that people with lower reported levels of attachment and importance (i.e., trails and JNP) are more likely to report having experienced conflict. This negative association is similar to that previously reported regarding recreation

specialization and may have, until recently, been viewed as contradictory to previously held assumptions of recreation participant preferences and behaviours. The current findings are not uncommon and are indicative of a need for additional research to be undertaken to better understand the roles of recreation specialization, place attachment, and importance as variables requiring renewed consideration by recreation conflict researchers.

8.9 Unacceptable/Disrespectful Behaviour

It has been well documented that conflict appears to be tied to unacceptable or disrespectful behaviours (e.g., Carothers et al., 2001; Vaske et al., 2004, & Clark et al., 2009). To assess this phenomenon participants were asked, “I am easily disturbed or irritated by the actions of others”. Positive correlations were found between this and both the emotion and appraisal dimensions. The items comprising both of these dimensions are suggestive of negative encounters with other trail users and therefore the positive correlations are not surprising. It is the belief that a more intense investigation of outdoor recreation conflict through the lens of unacceptable or disrespectful behaviours could reveal additional insights into our understanding of recreation conflict. Tumes (2007) was also in favour of such an approach and disappointed that previous research had not given stronger credence to unacceptable behaviours as a more telling variable. Unexpectedly, no correlations were found between disrespectful behaviour and the three dimensions. For instance, previously it was found that the vast majority of participants listed concerns surrounding disrespectful behaviour when they were asked to define outdoor recreation conflict. This may simply be a reflection of the different approaches taken to address the same issue. It may be that asking participants “I am easily disturbed or irritated by the actions of others” is a more accurate measure compared to asking participants if disrespectful behaviour would detract from their experience. “Detraction” may also be somewhat vague

compared to asking if behaviour disturbed or irritated, making the former less capable of capturing the true affect of others' behaviours.

Most important however, for assessing conflict is how well the scale correlated with the statement "I have experienced conflict today while on the trail". Each of the three dimensions produced medium positive correlations. Combined with the positive correlations to "I am easily disturbed or irritated by the actions of others" provides compelling evidence for the predictive ability of the scale, most especially regarding conflict specific indicators. The final means of assessing the predictive ability of the scale was through the use of regression analysis. Critical was the finding that all three dimensions were found to be the best predictors of outdoor recreation conflict. This finding was consistent even with the inclusion of additional conflict related variables: gender, education, are you a resident, importance of trails, experiencing a negative emotion, encountering more people than desirable, witnessing disrespectful behaviour, interference with personal goals, satisfaction with recreation experience, knowledge/expertise with activity, activity, attachment to trail network, attachment to Jasper National Park, easily disturbed/irritated by actions of others, and excessive noise. Overall, the three dimensions are explaining 21% of the reasons for conflict. Although 79% of the reasons for conflict are not explained here, the 21% accounted for here in the form of emotions and emotional reactions to conflict is significant because it had been unaccounted for in previous outdoor recreation conflict research. Potentially, this new model provides an additional means of exploring and explaining conflict occurrences. Supplemented with demographic questions, the scale may serve as an effective way of collecting valuable conflict information.

8.10 Conclusion

In summary a few points are worth reiterating. Future research will need to critically evaluate the emotions and appraisal dimensions because of the wording similarity within each dimension. Because, to advance emotion research and its application to conflict work, it will become necessary to know how and where appraisal or attribution contribute to people's affective states. The ability of the scale to predict outdoor recreation conflict was also affirmed. Out of all the variables considered, the three dimensions exhibited the strongest correlations with conflict while also proving to have the greatest predictive power based on findings from multiple regression. The scale also demonstrated the ability to differentiate between and among recreation attributes, namely, recreation specialization, satisfaction, place attachment, and importance. These variables routinely influence visitor behaviours and the proposed scale provides a means of examination through the lens of recreation conflict. The need to give more attention to unacceptable/disrespectful behaviours as legitimate conflict variables was also proven. Participants regularly listed others' behaviours as the cause of their conflict and recent research (e.g., Tumes, 2007) has pushed for greater emphasis on unacceptable behaviours as a viable conflict variable potentially capable of revealing a great deal regarding how and why conflict occurs.

8.11 Knowledge Management and Dissemination

Finally, this section considers the knowledge transfer process of outdoor recreation conflict research, satisfying the stated third purpose of my research. To begin, Manning and Vaske (2006) provided a summary of several trends in outdoor recreation research. They said,

First, research has evolved from primarily descriptive empirically-based studies of visitor characteristics and use patterns to theoretically-based analytical studies of visitor behaviour and the underlying meanings of outdoor recreation. Second, the research-based literature has been synthesized into conceptual/organizational frameworks (e.g., the

Recreation Opportunity Spectrum, carrying capacity frameworks) useful for integrating multiple studies and guiding further research and management. Third, the synergistic effects of an accumulating body of research have resulted in a theoretical understanding of important issues in outdoor recreation including crowding, conflict, motivations and benefits, substitutability, specialization, and sense of place. Fourth, issues addressed in outdoor recreation research continue to evolve to meet societal interests and needs... (p. 409).

The use and reliance on such social science research to inform management decisions operating in protected areas such as national parks is relatively new and has not gained the widespread usage and acceptance afforded research from the natural sciences. A great number of managerial decisions are socioeconomic or socio-political in nature (Harmon, 1994); “Hence there is an almost continual opportunity for social science to assist in making such decisions...” (p. 64). Thankfully, the role of social sciences in protected area management and research has seen a great shift globally throughout the past three decades (Heinen, 2010). The natural sciences still dominate protected area management resulting in the social sciences becoming a post hoc implementation (i.e., when socio-cultural issues arise; Heinen). Heinen continues to say that, “When conflict becomes apparent due to any number of factors (e.g., too much tourism, poaching, grievances due to restrictions, etc), one could argue that the role of the social sciences is, in fact, greater than that of the natural sciences” (2010, p. 151).

The prevalence of natural sciences is largely linked to the ideology often guiding outdoor recreation research that privileges the values of pristine land (Stewart, Parry, & Glover, 2008). Although a lengthy discussion of the discourses of the values and ideologies of outdoor recreation is beyond the broader scope of this research, it is nonetheless important to recognize the limiting influence that it has had on the introduction of social sciences to the management of our (i.e., North American) protected areas. It has only truly been within the past decade that a vision of protected areas as places that should be managed for protection but also for the use and

enjoyment of individuals has developed. This is attributable to the values discourse regarding parks and protected areas. Stewart et al. point out “...that beyond some occasional offensive/defensive positioning [research uncritically advocates notions of pristine land/outdoor recreation research has been value neutral], there has not been an open dialogue about the place for values in outdoor recreation research” (2008, p. 373).

A discussion of the place for values in outdoor recreation research must be reserved for future research. However, the broader change in the values of social science research was of particular interest in this dissertation. Analysis of previous outdoor recreation research and the management actions employed to manage the socio-cultural/socio-economic issues present in parks and protected areas raised concerns that seemingly important and relevant outdoor recreation research particularly that of recreation conflict, was not being utilized. The current research findings support, generally, that there is a gap between the social science research (i.e., outdoor recreation/conflict) that exists and its actual usage. Comments were reported regarding a lack of important conflict information (e.g., standards of quality for conflict in the park) and the current social science limitations because of its infancy throughout the national park system. A diverse network appears to exist capable of supplying managers with critical social science information, however a number of barriers (i.e., time, budget), as well as concerns over the communication process and quality (i.e., usability) of research publications remain issues requiring increased attention.

8.11.1 Social Science Information

From the perspectives of managers it is important to understand what social science information is missing/lacking. Comments highlighted both general outdoor recreation as well as conflict specific information gaps. Specifically, comments from participants included,

“...that’s part of the challenge, again, we’ve got the body of research that describes conflict for us and we can understand its asymmetry and all sorts of things...but when it comes to harder measures of acting on the ground that’s where it gets pretty difficult”. There is considerable research from the past that has provided meaningful social science information. Discussions regarding the use of and advantages/disadvantages of direct (e.g., trail closures) and indirect (e.g., education programs) management techniques have been common place (e.g., Manning, 1999) as has the discussion and implementation of visitor management frameworks (Payne & Nilsen, 2002). The management of visitor activities under the guiding principles for Parks Canada stipulates the use of the Visitor Activities Management Process (VAMP) as well as a number of direct and indirect management strategies, such as zoning, rationing of use limits and education and information (Parks Canada, 2006). These approaches, although effective and appropriate under certain circumstances are insufficient, most especially for managing conflict (“currently we don’t have any solid PC [Parks Canada] resource for how to deal with conflict on a trail”). It is clear that managers are requiring more detailed information related to visitor norms in order to be able to develop indicators and standards of quality. Such information can only be provided through social science research. Although investment into social science research has/is increasing, one participant was quoted as saying, “...social science is pretty new in PC [Parks Canada], I’m not sure how many years...maybe 10 years at the most and it’s truly still ramping up...so our capacity is is increasing and we’re more interested than we were in the past”. Lewis (2007) discussed the role of science in park service decision-making and her comments concerning social science information were especially relevant to the above findings, particularly because of her position as a park superintendent.

There is simply not enough people out there helping us to understand our visitors. And yet we need that kind of information. The kinds of decisions I make as a superintendent

every day demand it. Social scientists are equipped to give meaningful input into the values-based issues that we face. That input seems to be largely missing from the national parks, especially as it relates to value-based issues involving natural resources. Social science is our biggest “science stall.” A stall that we cannot afford to let go on unaddressed. (p. 38)

There exists a variety of social issues for which social science research can prove useful and is in fact necessary. In talking with park managers, it became apparent that they rely and depend on a variety of different types of information and that there are specific outcomes associated with the information that is used.

8.11.2 Types of Information Required

The common opinion among study participants was that academic information (i.e., theories and models) was necessary to properly inform management decisions. Additionally, use of a particular theory or model was largely dependent on the type of issue or activity requiring management. Regrettably, most theoretical research was regarded as inaccessible by managers, with participants agreeing that practical information/findings were of greatest value. The take home message from participants reflected the need for and value of having “tools” available: “I’m in my current position doing a fair bit of tool development and people are desperate and hungry for it because it just makes their life so much easier...they don’t have to figure out a lot of the design themselves, it’s already been something that’s that’s vetted and makes sense and works”. Related to conflict a participant said, “...conflict is something we’re going to be needing to measure down the road...and having tools on the shelf that are sort of ready to go...”. The current study has shown that managers are aware of and need various social science theories and models to help inform their management decisions. However, such theories are only useful if their applied value is apparent and easily understood. The existence of a “tool” or the possibility

for a “tool” to be developed from research findings may represent one of the most important aspects influencing the use or adoption of social science research.

The difference is usually one of applied versus academic research (Harmon, 1994; Manning, 1999). Social science research from the applied realm “...focuses on protected area conservation as a socioeconomic process revolving around the allocation of scarce resources and the management of human behavior” (Harmon, p. 2). This research is management-driven (i.e., research questions) and produces findings with immediate applicability to management practice. Immediate applicability is critical because participants admitted that research was used to help foster “on the ground” solutions. Such solutions come in the form of “tools”. One participant provided an excellent example:

...let’s say a trail crew foreman is in a park and is realizing or is getting a lot of comments on conflicts occurring um instead of just ignoring the issue or or trying to reinvent a solution they can go to a list of resources that we would have created [i.e., a tool or tools] and they can basically open up the document to the conflict chapter and read through it and in there it would underline or identify what conflicts are, what to look for and how potential management steps that we can use to mitigate conflict and it will be a guideline and the idea is that everything that we have created will be interpreted by each park, so we’re not setting a strict standard, this is how you deal with conflict, we’re setting a guideline that says here are some solutions for conflict...

Park management interest is largely with research findings that contain relevant managerial implications. Jordan and Roland (1999) found that practitioners read more practice-based materials (36.94%) compared to research (14.45%). Not surprisingly, academics read much more research (52.05%) than practice-based materials (16.58%). Support for the importance of results with immediate applicability was also found. “57.7% indicated that they read only that material that had some direct application to their work place (e.g., program ideas, “how-to” information about dealing with conflict, production information that directly related to an

upcoming purchase)...” (p. 167). In a broader sense research knowledge has been found to receive very little use by practitioners (Xiao, 2006).

From a practical perspective there are a number of applications where the current emotional understanding and proposed scale could be of use for park managers while satisfying their need for “tools”. For instance, several visitor management frameworks (VMF) were identified and discussed in the literature review. Some of these included Limits of Acceptable Change (LAC, Figure 9), Visitor Impact Management (VIM, Figure 8), the Recreation Opportunity Spectrum (ROS, Figure 6), as well as a general management framework presented by Manning (1999) (Figure 11). Manning’s framework, LAC, and VIM each require that indicators and standards of quality for social conditions be identified and monitored. I believe it would be possible for positive and negative emotions to be used as indicators of quality. In the present study participants identified feeling a variety of negative emotions, the causes of those emotions, and the resulting influence on their recreation experience. The types of emotions reported by visitors could be used as an indicator of experience quality. Similarly, the scale could help establish standards of quality. For example, it may be established that reported scores of four or greater on the unipolar scale could be indicative that quality has diminished beyond established standards. As such the scale could be used for regular monitoring of social conditions. As another example, the ROS framework specifies the “acceptability of visitor impacts” and because ROS explicitly considers issues such as access and user interactions, its application in a variety of outdoor recreation conflict scenarios seems appropriate. The inclusion of reported emotions and responses to the scale items might help to ensure that degree and prevalence of visitor impacts is being maintained for each type of recreation environment (i.e., modern, semi-modern, semi-primitive, & primitive) that ROS distinguishes between.

8.11.3 Why Research is Used

Reasons and/or occasions for research to be used were still identifiable by managers. Managers cannot simply make decisions based on intuition and personal biases (Xiao & Smith, in press); management actions need justification backed by sound theory. As a result park staff can be educated (“the broad literature is helpful for informing specialists and park staff on approaches...”) and decisions substantiated to community members and politicians. The need to regularly consider and inform the public cannot be underestimated. “...the public can be vitally interested in both the process and the results of research and management. It is a fatal mistake to underestimate the public’s intelligence or inquisitiveness” (Harmon, 1994, p. 16). Despite the theoretical nature of most research, the end goal for management is a practical tool to aid with management decisions. If anything, this should make researchers acutely aware of the importance of making research useable. In the field of recreation and leisure studies, the relevance of leisure theories and therefore the transfer from research knowledge to practice has been pondered and debated (Hemingway & Parr, 2000; Shaw, 2000). Concerns have risen regarding the insularity of leisure research (Samdahl & Kelly, 1999), inhibiting its applicability in real-world circumstances. Unfortunately, gaining access to relevant research information has remained a consistent issue.

8.11.4 Accessing Research Information

Findings show that managers have a variety of avenues available to them for accessing important research information. What is surprising is the apparent lack of direct manager-researcher communication that appears to exist. Within the Parks Canada organization there may in fact be five levels or avenues for accessing research information. At a basic level managers may take the initiative to search for and read research publications, but are unfortunately

severely constrained by time (“...I mean that would be nice I would like to do that (laugh) I will never have the time to do it...”). The need for critical information and the balancing of time is something that is well documented. “The secret to processing information is narrowing your field of information to that which is relevant to your life, i.e., making careful choices about what kind of information merit your time and attention” (Harmon, 1994, p. 52). Secondly, are staff below managers such as planners who have more time to devote to finding research information and staying current on new research who may then pass relevant information on to managers. The third avenue is social scientists working as part of the social science program. The role of the social scientist appears to be quite large, especially in terms of retrieving and providing the necessary information for managers to help inform management decisions. The social scientists appear responsible for literature reviews, design and implementation of research projects, and the writing of summaries and reports that are distributed to park managers (“...to be honest most of the information that I get gets passed down to me or over to from the social science department...”). One participant was quoted as saying, “...our social scientists are the practitioners for theoretical stuff that comes out of the university, the academic side”. They elaborated further by saying, “...they have to take theories they get from the academics too and put it into practice to gather the information and summarize it and give a report, then they’ve got to give the next step...is to you know to us in a way that it allows us to answer those questions or ask more questions”. Parks Canada also appears to have a “National Working Group” as described by one participant, “...the other way that we do get stuff is is like with regard to trail information is I do have a National working group so I have people all over the country um you know from parks out East, parks out West, parks in the middle...”. Their role is not as expansive of that of the social scientists, but nonetheless provides a valuable access point to new and

relevant information. Finally, managers admitted to outsourcing information retrieval to third party organizations most often because of a lack of access to necessary research publications.

The challenge for researchers is drafting research findings that (1) have a generally broad appeal and usability permitting access to all groups involved with information retrieval, or that (2) are aimed specifically at one particular group. For instance, research findings targetted at social scientists working as part of the social science program may be suitable as theoretical academic papers. Although social scientists are the “practitioners for theoretical stuff”, meaning theoretical information is still likely to reach managers; a singular focus unnecessarily limits exposure of managers to information. The likelihood is that researcher-manager relationships would also suffer as a result. The more appropriate and perhaps effective approach should be a singular focus with managers as the intended audience. Therefore, when available such practical documents/papers will be readily accessible to managers. The role of park planners and social scientists in the retrieval of information will remain intact recognizing that a great majority of research findings is still going to be highly theoretical. The advantages to multiple avenues of access as they relate to researcher-practitioner relationships are discussed below. However, I would like to reiterate the importance of practical level research and the need for researchers to begin to include non-technical/theoretical papers as a means of broadening their readership. Multiple avenues should improve access, but not the expense of isolation. If managers are the final “stop” for research information they are going to inevitably be less familiar with the research; and of all groups/individuals involved with information retrieval managers require the greatest level of understanding.

8.11.5 Researcher-Practitioner Relationship

The dynamic between managers and researchers is perhaps the most interesting study finding. Literature (e.g., Gibbons et al. 2008) stresses the importance of researcher-practitioner relationships; however the number of avenues of access available to Parks Canada presents a different dynamic. Academics may be serving more of an advisory role, rather than the bringer of new research findings. It would appear that the social science program, National Working Group, park planners, third party outsourcing, and the occasional personal investigation by managers help ensure access to all relevant information. Academics may be consulted later for clarification, especially if they are a noted expert in the particular field of interest. The social scientists (as well as the other avenues external to the managers) may be acting as intermediaries between the published research and the managers. Manning (1999) referred to these as “go-betweens” stating that their role may be “to bridge the communication gap between researchers and managers[...]Extension agents fill this role in other fields and may be an appropriate model for outdoor recreation” (p. 295). These intermediaries are able to devote more time to networking, as well as the collection and analysis of research findings. They in turn, may be able to provide information to managers in a usable and understandable format. It seems likely that social scientists will also possess a higher level of technical research understanding that has previously been a roadblock for managers to incorporating research knowledge (e.g., Manning, 1999). The research literature, particularly in the area of outdoor recreation does not explicitly recognize the role of intermediaries. The linearity of communication has however been criticized (Stewart et al., 2008 & Melzer & Ellis, 2009), while the inclusion of multiple paths of knowledge communication has been regularly recommended (Melzer & Ellis). Future research is encouraged to investigate the role these intermediaries may be playing.

At the very least the additional avenues are helping Parks Canada managers overcome a number of barriers. Insufficient time to research information (e.g., Melzer & Ellis) was reported earlier. Bingham (2007) found access to be a significant barrier because as he described, “Data existed and could be located, but could not be acquired in a timely manner...” (p. 43). With the additional resources collecting research information the time lag between discovery and adoption may be reduced (see Wright, 2003 regarding the adoptions of Innovations Theory). Similarly, “Data may have been accessible, documented..., but substantial resources were needed to compile the information to the necessary scale” (Bingham, p. 43). The social scientists, National Working Group, and third party outsourcing represent substantial resources. Examination of their roles and abilities to retrieve information was beyond the scope of this study. The pace of decision making was also cited as a barrier to integrating new research. Briggs (2006) found that contrasting time frames, most notably between science, policy, and implementation were significant barriers. The future of knowledge dissemination would be well-served by investigating the impact these intermediaries are having on the transfer process.

It was surprising to discover that managers reported very little direct involvement with academics/researchers. It was reassuring that managers regarded relationships with academics as important (“So I think it’s something that’s really valuable...and I think it’s something that we’re interested in doing more and more...”). And that they recognized the value in building new and maintaining current relationships:

...I think a lot of managers will have or...whomever, but will have certain key contacts that they go back to time and time again because they know they have a bit of a working relationship if you know that the academic person might, will sort of build up some familiarity with the park in our case and whatever our issues are so that becomes really valuable and we’ll have a better understanding of the research they are doing and what information they can provide so it’s sort of I think it’s largely a relationship thing.

Developing new relationships can be difficult however. Most managers cited conferences as a means of meeting new people (“...a lot of networking occurs and long-term relationships and connections stem from there [conferences]”). The unfortunate part is that one of the participants felt that they had to be the one to initiate contact otherwise relationships wouldn’t develop. At the 2005 Canadian Congress on Leisure and Research keynote speaker Ken Balmer spoke of the current divide that exists between leisure, recreation and parks researchers and practitioners. The take-home message was one of the “collaboration imperative”, which he deemed vital to the future relevancy and sustainability of researcher-practitioner collaborations.

8.11.5.1 Researchers-Practitioner Relationship: The research-practice debate

Regardless of which fields of inquiry are under investigation, Boyer (1990) in his seminal work *Scholarship Reconsidered* stated that “Theory surely leads to practice. But practice also leads to theory” (p. 16). The abundance of leisure organizations worldwide (e.g., World Leisure and Recreation Association, Canadian Association for Leisure Studies, European Association for Tourism and Leisure Education) should hint towards the importance of leisure researcher-practitioner collaborations (Dustin & Goodale, 1999).

Perhaps more importantly, Driver (1999) recognized that leisure pervades all dimensions of human life (e.g., mental and physical health, economic stability, the justice system and prevention of crime, etc). As a consequence, Driver maintained that “we” in the leisure profession must work closely with the leisure services and enterprises. For instance, as Goodale (1991) alluded to, although we often talk about networking and coordinating with other researchers and practitioners, unfortunately we seldom find the time to do it. Most obviously, this may be explained by the simple fact that collaboration between researchers and practitioners is very difficult. Goodale also noted that researchers and practitioners are two very different

breeds of people – “We are different people, with different understandings, doing different work in different milieus” (1991, p. 170-171). Surprisingly, and still relevant today is the work by Hemingway and Parr (2000), who recognized that leisure research and leisure practice are still independent professional paradigms. What we are still missing is a relation between the two. Leisure research “designates a professional paradigm assembled around principles taken to govern the pursuit of theory-based knowledge about leisure” in comparison to leisure practice that incorporates “assumptions about training leisure service professionals, effective and efficient organization of service delivery, appropriate content of leisure services, and standards applied in evaluating service quality” (Hemingway & Parr, 2000, p. 142).

As Hemingway and Parr (2000) point out, discussions are circulating regarding the leisure research-practice debate (e.g., see *Journal of Leisure Research*, 1999, volume 32). Comments such as “practical applications of findings is seen as the desired end product of leisure research” and “leisure represents a context in which theories and methods from other core disciplines might be applied” by Madrigal (1999) echo the sentiments and missions of the leisure fields two most prominent research journals – *Leisure Sciences* and *Journal of Leisure Research*.

Jordan and Roland (1999) asked academics and practitioners if “Research articles are easily applied by practitioners” and 55.7% disagreed and only 7.1% agreed (p. 169). Some may question the validity of these findings given that according to the present study, most managers appear to have little direct communication with academics. The requirement for managers to be able to adequately understand research findings is diminished with the introduction of various intermediaries, whose skills more closely align with those of academics. Regardless, managers did report maintaining several relationships, considered relationships to be important, and showed interest in building new relationships. The need for accurate social science information

is not going to change, nor is the need for managers to be able to make informed decisions. Change and improvement to the communication process is needed.

8.11.5.2 Researcher-Practitioner Relationship: the communication process

Participants were interested in two particular means of improving communication. The first concerned a common understanding of the research language or vocabulary. To, "...develop more of a vocabulary and a bit of a just a core understanding of those key principles [research language]" would go a long way to helping to improve the communication process. Finally, concern existed regarding the time required to adopt research. Time was reported by managers as a barrier to both accessing information and building/maintaining relationships. One participant said, "...is there a way to streamline that so it doesn't take you so long...is there a way of streamlining that process from the social to the practitioners..". Gibbons et al. (2008) made a number of suggestions such as direct active communication, establishing workshops, conferences, and practical working relationships, as well as strategic indirect communication. What exactly is meant by some of these (e.g., direct active communication), is uncertain, but more importantly there needs to be a mechanism to make them happen within the realm of existing organizational, political, and budgetary constraints. Sunderland, Sunderland-Groves, Shanley, and Campbell (2009) suggested greater practitioner involvement with research. This included joint publications by practitioners and managers as well as utilizing managers as part of the peer review process to help ensure that research remains applied. Unfortunately, Jordan and Roland (1999) found that, "More academics than practitioners agreed that 'Practitioners should be more involved in the conduct and publication of research'" (p. 168). The problem today is, more than ever, researchers are pressured to publish for tenure and promotion (Boyer, 1990; Frank & Gabler, 2006; O'Meara & Rice, 2005;) and consequently can lose sight of a key

outcome of research – the betterment of society. By no means am I suggesting that basic or theoretical research has no position and that researchers should be exclusively focused on practical research; instead I am simply stating that we (i.e., researchers and those belonging to the academy of research), can and have, from time to time, lost sight of the potential hidden in our research. I firmly believe as Boyer (1990) said, “Theory surely leads to practice...(p. 16). Theoretical research (i.e., theories regarding society, human behaviour, etc) contain the DNA for practical level changes. The difficulty is going to be figuring out how to extract that DNA. This is the moral and ethical nature of publishing that is lost when publishing is done for prestige and promotion (Kelly, 1989; Witt, 1995). As a direct consequence researchers also frequently lose sight of the practicality of their research and demonstrate decreasing amounts of interest in integrating their research through collaborative efforts with practitioners. Purposeful involvement of practitioners in the publication process may help to reverse this trend:

Another way of getting managers to “buy into” research is to encourage them to co-author articles with researchers. Articles in popular magazines are useful, but exposing managers to the rigors of peer-reviewed publishing in traditional, single-discipline scholarly journals has more value: it sharpens their analytical skills and helps them understand the researcher’s point of view. Best of all, there are also a growing number of intermediate publications (some peer-reviewed, some not), aimed at professional audiences, that stress cross-disciplinary applied research. These intermediate publications would be a good starting point for researcher-manager collaborations, who can branch out from there toward both the popular and traditional scholarly audiences (Harmon, 1994, p. 72).

Harmon stressed that successful relationships occur when researchers and managers, together, are critical thinkers. From this perspective, critical thinkers are better able to correct for assumptions and biases driving research questions (Harmon). “Research questions...should be constructed in light of the intended impact and vision for social reality [i.e., desired end-state such as health, social justice, etc]” (Stewart et al., 2008, p. 376). As such, “...the end-states of leisure research [are] broader than providing technical assistance to leisure service professionals”

(p. 376). Effective relationships, improved communication, and greater understanding can be achieved if a mutually desired end-state is created and research designed around realizing that social reality. This is however, just one mechanism for improving relationships. It still requires a willingness and commitment on behalf of researchers and managers and considerable investment in time and effort to make it happen. Working towards a common end-state, overtime helps foster a common understanding and as one participant said,

...part of that common understanding that you gain over time allows you to ask questions that are in a way probably more meaningful to the social scientists and to the academic, you know it feeds back that way you know so if I'm more, if I have a better understanding of some of these principles, mood states, and appraisals, if I have a just a general understanding of what those really are then I can ask those questions...it would help streamline that process...

Finally, relationships and the communication process in general may be better served through what has been identified as a “science park” (Chan, Oerlmans, & Pretorius, 2009). Characterized by “an organizational program of activities for technology transfer” and “a partnership between academic institutions, government and the private”, “...a Science Park stimulates and manages the flow of knowledge and technology amongst universities, R&D institutions, companies and markets...” (p. 55). In this sense ties or connections between organizations (e.g., Parks Canada, various academic institutions, Alberta Parks, Conservation Authorities, etc) create interactions that make knowledge transfer possible. Such an approach would however require considerable commitment and financial investment on behalf of participating organizations. The upside is unrestricted flow of information and almost immediate access. These solutions do not address one of the more significant problems with partnerships and research communication – how research information is presented/written.

8.11.5.3 Researcher-Practitioner Relationship: documenting research findings

Based on my and others' findings, it appears that managers require two things: (1) practical solutions to real-world problems in the form of "tools", and (2) that research information be presented in a manner that permits transferability to the practical realm by being short/succinct and easy to understand by a diverse audience. With reference to the adoption of innovations or research ideas Wright (2003) says, "the research community needs to... spend more effort presenting them to the management community in a way that makes them easier to adopt" (p. 6). One participant said, "so I think it has to be like worded, or presented like in a short format and easy to understand for that's for sure", while another said, "I'll often have executive summaries because you really want decision makers to have access to the information and their time is pretty tight and so if you can't convey it really succinctly and graphically it might not get picked up". As a park superintendent Lewis (2007) says that her "...job requires that I be like the Mississippi River: a mile wide and an inch deep" (p. 39). She reads a lot of technical reports and scientific articles regarding pressing issues, but the rest of her managerial decisions requires only the "Cliff's Notes version as a primer" (p. 39). Her recommendation: "Keep it short! Synthesize. Explain what you know in 4-5 bullets" (p. 39). A particular researcher may be the expert on a given topic, but the manager cannot afford to be and therefore only requires the basic most important pieces. Lewis says that "...the rewards, as far as communication, will be great" (p. 39).

Lewis (2007) also says that graphs can help out tremendously: "Sometimes I just need to see it" (p. 39). Harmon (1994) says that graphs can be further customized depending on the target audience. He provided three examples. The first was a cluster analysis, which is a highly technical graph intended for a specialty audience where statistical comparability is the desired

outcome. The histogram on the other hand is much more appealing visually, allows for the distribution of frequencies to be displayed and at a basic level can be understood by someone with no statistical training. Finally, the distribution map is the most impactful visually, however the disadvantage is that all statistical comparability is lost.

Several participants commented that research is often avoided and not used if it is not communicated well and therefore does not lend itself to being easily consumed. One participant said, "...they [consumable/understandable documents] make a point and it's kind of bang, bang, bang, bang, and some people never figure that out and as a result even good work can be harder to consume and apply because it's it's just not communicated effectively...". Throughout the analysis process a number of memos were written. The following memo captured some of my thoughts regarding participant comments concerning the "consumability" of research:

This makes me think that research is like fast food. With fast food, consumers are not presented a lengthy document to explain the latest burger or why they should have it; they are presented with a clear picture that tells them. Similarly, park managers don't want and don't have the time to read lengthy documents; they want graphs, straightforward summaries that provide them with all of the relevant information. Think of a poster that presents everything, the same way that the menu board at the local McDonald's displays all information clearly.

Discussion was also raised about the concern over the language (i.e., research vocabulary) that is often used to report research findings. "...if things are for example jargon laden it quickly reduces the, the pick-up that sort of thing...". Jordan and Roland (1999) found that more academics disagreed that "Research articles are easily understood by practitioners". Lewis summarized the language issue beautifully. "Think about it: the first thing scientists do, when they go to school to become scientists – no matter what field they go into – is learn a specialized language. This language helps them to communicate with other scientists in the field, but it does not help them to communicate with anyone else" (2007, p. 39). Her

recommendation is to use plain language whenever possible: “If someone outside your area of expertise is not likely to understand a word, explain it. Or choose a more common word” (p. 39).

The pressure on academics to publish and conform to the publishing standards of their field may have something to do with the slow adoption of understandable language. Providing recognition for applied level research and publications accepted into professional journals/magazines may work to create a broader interest in producing more user-friendly research findings. It’s interesting because among academics and practitioners more agreed (48.5%) than disagreed (20.6%) that “academics have a responsibility to write for practitioners”. An even greater number agreed (71.4%) that “writing practical and applied articles helps keep me connected to the field”. If we as researchers write for practitioners, then we have a responsibility to help ensure they understand what we write. And shouldn’t all researchers be striving to stay connected to their respective fields? If so, then why isn’t more practical level research being conducted? One measure of success in academia is not only the number of peer-reviewed publications, but the number of times your research has been cited by other scholars. What if the yardstick were instead to reflect how quickly research was adopted into practical application?

Regardless, the responsibilities of today’s park managers are enormous; what they appear to require from researchers is not. Harmon summarizes things:

...the conclusions are what managers are most interested in. They must be clearly stated in readable language that avoids jargon. Where possible, graphics should be used to illustrate key points. Any statistical or other technical qualifications should be carefully explained, and the significance of the results and their possible relevance to management should be laid out. Some notion of the relative importance of the conclusions should be given so that managers have an idea of how best to spend their time and money (1994, p. 11).

This previous discussion should not be construed to suggest that the onus is solely on academics (i.e, the academy) for improving the transferability and use of published research. I firmly believe that positive changes will result when both groups work equally at improving the transfer of knowledge. Researchers and managers are confronted with similar barriers (e.g., lack of time) and to suppose that researchers have the time to publish both academic and practical documents is unrealistic. It has similarly been recognized that researchers acquire and use a specialized language when writing and communicating research findings and that this language is not always accessible to practitioners (Lewis, 2007). Effectively presenting research findings to an audience of practitioners also requires a highly specialized skill and to again suppose that researchers have the ability and/or time to develop this skill is placing too much of the onus on researchers. Practitioners should make attempts to learn the “academic language”, a point recognized by one of the Jasper National Park staff. Equal efforts on the part of practitioners and researchers is not only equitable but likely the more effective means of improving the transfer of research knowledge.

8.11.6 Executive Summary

In light of concerns raised about the usefulness and usability of highly theoretical research, the current qualitative inquiry was also intended to help evaluate the usefulness and usability of the proposed emotions-based outdoor recreation conflict scale to Parks Canada management staff. The process was extremely helpful in bringing additional clarification of some of the challenges faced by managers when trying to learn and adopt new research. The executive summary was drafted to provide a detailed account of the scale validation and its intended purpose, while remaining less technical than a traditional academic publication. Comments from participants were quite positive and illustrate the potential that exists for the

research to become usable in the future. Positively participants specifically commented on the general quality of the document, its relevance to their situation, and the benefits apparent in the research findings. Regarding quality of the document one comment said, "The overall layout of the document is great, like executive summary with the conclusion...things that I look for right off the bat are the executive summary and then I'll go to the references". Harmon (1994) noted that managers are drawn to conclusions first and foremost as well as information that is immediately relevant (Manning, 1999). Lewis says that she often makes quick decisions based on an impression taken from a small amount of information. Time is precious and critical decisions need to be made every day. It came as no surprise that managers were immediately drawn to the introductory summary and conclusions of the research document. They are able to decipher a great deal of information, assessing its relevance to their current situation. Most of the managers admitted that they found my findings and the approach to understanding conflict particularly intriguing to them. Schneider (2000a) recognized the need for an improved understanding of outdoor recreation conflict and it appears as though the managers were appreciative of the fresh perspective provided by my research:

..where your information has started to hit a little bit on um aligns itself a little bit with...the whole idea...conflict may not actually be a direct confrontation but it might be a hiker who sees a widened trail that's full of horse hooves that have created quite a bit of damage to that well that suddenly creates that emotional conflict or that emotional controversy.

I think that where you are trying to go is great, I'd like to see more of it in terms of the sort of the human perception of trails um, so there's ton more research that needs to be done in terms of conflict I would like to see more work being done along the lines of what you're exploring right now.

This is critical because in the field of recreation and leisure studies, the relevance of leisure theories and therefore the transfer from research knowledge to practice has been pondered and debated (Hemingway & Parr, 2000; Shaw, 2000). Participant comments do not guarantee

applicability, however it is my belief that research must first be relevant (See Melzer & Ellis, 2009) before concerns surrounding its application are addressed.

My review of the conflict literature revealed that a deeper understanding of the conflict dynamic had been developed over the past several years, but that management working in protected areas were still relying on historical solutions. The comments above reaffirm (a) the need for new approaches to developing solutions, and (b) that my current research may provide a possible avenue for management to explore when developing future solutions.

8.11.6.1 Executive Summary: barriers to application

Reports from participants did reveal some confusion and barriers inhibiting the applicability of the research. The confusion reported by a couple of participants seems to reflect what Sunderland et al., (2009) called, “practitioners’ scientific literacy” because as Lewis (2007) said managers are not necessarily scientists. An effort was made to reduce the technical jargon or offer clear explanations, but it’s evident that the executive summary may have still have been too researcher-oriented: “I’ll have to admit that I had to read through it twice um just because there’s a lot of references...this is where I can really see the social science...”, and “...this is very heavy science methodology which is wonderful stuff which is great stuff but I actually had to stop a couple of times and re-read sections just to fully understand it”. Underscoring these findings is the difficulty apparent in producing a research document that commensurate with audience understanding. Producing documents/papers that are readable, consumable, and easily understood by managers is challenging and will likely require multiple attempts and years of experience before mastery is achieved.

Another criticism has been that conference presentations and lengthy publications only promote awareness of new approaches and do not lend themselves to immediate application.

According to participant comments this is what may be occurring here: "...if I were to present the document that you created to our field units and ask them to use it in the field they wouldn't use it, it's a little too in depth a little too detailed, it's a little too deep I guess...". It seems likely that my document has promoted awareness of new information and information that participants themselves see as valuable. Unfortunately, it also seems that in its current state it would not be applicable or usable. This finding confirms my fear that possible outdoor recreation conflict research exists that is not and cannot be used. While managers fully admitted that I had interesting findings that appeared valuable, the limitations of the current presentation format unfortunately restricted its appeal. In its current state, my only hope for adoption would be through one of Parks Canada's intermediaries (e.g., social scientists).

8.11.7 Knowledge Dissemination: conclusion

Generally, participants felt the specificity of the scale made it more applicable to only certain situations. Managers did not see the scale as being appropriate for general use, but rather when specific answers are needed regarding the interactions of particular groups of people or activities. Evidence shows that most research continues to be presented in a manner that is still largely problematic for parks managers to understand and apply effectively. Most comments by managers emphasize the need for research to be presented in a way that is understandable, short and succinct, making research consumable and transferable. The key word for all managers was "tools". They needed information that could be taken and easily transformed into a tool that would allow them to specifically address conflict related problems. Although they could see future applicability of my scale as a potential "tool", the document that they were presented with suffered from a lack of immediate "consumability". Largely, the document was found to be too technical and because of that methods for applying the scale were not completely understood.

Developing research that is not only relevant, easy to understand, but that also allows for its immediate applicability is a daunting task for any researcher/writer. Future iterations of my research will strive to move beyond relevancy to include methods or approaches to assist with its applicability. As a first step this will include the use of common language and the elimination of technical jargon. The overall length of the document would also be reduced. To assist with the provision of “tools” detailed instructions will be provided explaining how park staff is to utilize the provided conflict scale as well as the types of information they can expect to retrieve. All of this will not guarantee that managers will adopt the research. Harmon quotes Machlis (1993) as saying,

a research project completed too late, dealing with issues of only tangential relevance to a manager’s decision-making needs, presented without limits or explanation, and by scientists of unknown credibility, will likely not produce usable knowledge. Note that such research could be excellent, even brilliant, science; it would still remain outside the boundaries of usable knowledge (p. 49).

Previous research supports the current findings. It is evident that managers rely heavily on relevant research information when making resource management decision. This information needs to be short/succinct and free from technical research jargon allowing the information to be easily understood. Where new information has been revealed concerns the nature of the relationship between researchers and managers. The current research has established the existence of a vast network of communication. Previously research had focused on the researcher-manager relationship. Although managers in the current study admitted that such relationships were important and they expressed a strong desire to maintain current and build new relationships, the amount of direct communication of research information appears extremely limited. The development of Parks Canada’s Social Science Research Program has only occurred within the past decade, which may explain why such additional avenues of

communication have not received any empirical investigation. The role of “intermediaries” in the communication process is enormous and when fully established could prove to be the foundation of a radically improved researcher-manager communication network.

8.11.8 Conclusion

Several conclusions can be drawn from this study. Firstly, information collected from visitors to JNP showed that participants not only possessed higher than expected levels of attachment (theorized to be based on/caused by nature and environmental features; Smaldone et al., 2008), but that they also experienced very little conflict or crowding. Perhaps the most promising revelation concerned unacceptable behaviours; they may be the most revealing about conflict as they were cited extensively in participant acquired definitions of conflict. Generally speaking, participants had higher than expected levels of tolerance for other visitors and behaviours only became problematic when evaluated to be unacceptable. Emotionally, participants reported experiencing negative emotions. One purpose of this research was to investigate a new emotional understanding of recreation conflict. The fact that negative emotions were found to ruin experiences and cause participants to change locations provides grounds for renewed investment in emotionally-based recreation research. Unacceptable behaviours may be at the core of many negative emotions as discovered by Tumes (2007) and echoed here.

Secondly, in satisfaction of the second study purpose, the proposed scale was validated (i.e., construct & predictive) and found to be reliable. However, research is needed to better understand how and where appraisal functions when experiencing an emotion. Although findings support the earlier work of Russell (1980; 2003), and confirm three dimensions as appropriate, some evidence suggests that appraisal may play a unique role, a role that may be

blurring the divide between the emotion and appraisal dimensions. Conversely, the scale was established as the best predictor of conflict warranting additional investigation of its ability to predict conflict.

Finally, results from knowledge dissemination (i.e., third stated purpose) support the need to ensure that research info is usable, consumable, and easily understood. Generally, managers were confronted with barriers (e.g., time, budget) to engaging research and researchers. The network of intermediaries assisting in gaining access to research is unique; the benefits of this approach would seem extraordinary. However, additional work needs to clearly establish the roles intermediaries are playing. Managers should not be segregated from the research. Furthermore, participant comments confirm otherwise; managers want to use more research, read more research, and continue to develop relationships with academics.

Lazarus and Folkman (1984) emphasized the importance of understanding the stress associated with negative recreation encounters, while others (e.g., Hull, Stewart, & Yi, 1992) have more recently recognized the relevance of emotions, mood, and other affective feelings for leisure research. Even more recently research by Vitterso, Chipeniuk, Skar, and Vistad (2004) attempted “to reveal the emotional and affective dynamics of an ongoing recreational conflict” (p. 228). The role that the emotion stress plays in conflict coping has also been investigated with connections found to the intensity of the emotion (Schuster, Hammitt, & Moore, 2006). Today, demand is increasing for more theoretical approaches to understanding conflict and why it occurs (Manning, 1999).

Although Reid and Mair (2005) have recently provided a “state of the art” concerning leisure research on a broader scale, as researchers and natural resource managers, we simply do not know the current state of outdoor recreation and conflict knowledge; if and how this

knowledge is being disseminated is simply not known. Additionally, research (e.g., Manning, 1999; Wright, 2003; & Kachi, 2003) has revealed that there are a number of barriers existing in academic research and the communication process between academics and natural resource managers that are likely limiting the understanding and, hence, use of relevant academic research. Findings from this study serve to reinforce previously held understandings but also revealed new avenues of inquiry of extreme importance to the leisure field and beyond.

Specifically, there are practical and theoretical level findings of significance.

Pragmatically, findings have potential meaning or importance for a variety of other academic fields of study. Conclusively, findings continue to support the notion that the manner in which research is presented or delivered bares serious consequences for future adoption of research into practical applications. The research further confirmed that traditional barriers of lack of time and budget constraints continue to be ever present. Most relevant to leisure and other fields of study is the acknowledged important role of “intermediaries” or “go-betweens” as mentioned by Manning (1999). The network for accessing research information appears quite extensive; no fewer than five channels of access were identified in this study. Disciplines beyond leisure should examine the avenues of access. Finally, managers or practitioners, regardless of field of inquiry should not be segregated from the research process. Furthermore, participant comments confirm otherwise; managers want to use more research, read more research, and continue to develop relationships with academics.

Theoretically, I believe that the findings enhance the field of outdoor recreation but also have potentially valuable contributions to the fields of sociology and psychology. Generally speaking, findings contribute to the already large body of emotions literature and support the three factor structure of emotions proposed by Russell and Snodgrass (1987). Additionally,

findings highlighting the potential importance of unacceptable behaviours seems appropriate for social settings removed from outdoor recreation and may contribute to the broader social norms literature.

In relevance to the leisure field, the findings contribute new theoretical knowledge as requested by Manning (1999). For instance, this research has expanded earlier “affective” research by Hull (1980) and others and advances the field by providing a validated and reliable scale to be used for assessing conflict emotions. Such a development may also re-open the doors to investigating the emotions (e.g., types, roles, & importance) in a variety of other leisure settings. Results also point to the need to more adequately include unacceptable behaviours when investigating conflict.

There are also a few areas from this investigation that are, as of yet, still unresolved. The first is the researcher-practitioner communication process. This study revealed certain aspects but was not able to dissect the particulars, especially within the Parks Canada organization and the role of intermediaries. An in-depth look at their role and organizational functioning on a daily basis is necessary. And, although managers expressed the desire to “streamline” the communication process, mechanisms to make that happen were not explored. Theoretically, it remains uncertain how effective the proposed scale could be in accurately assessing conflict. The answer requires repeated validation. The definitional understanding of emotion has also been left unresolved. One understanding was implemented here, but it is possible that a different interpretation could prove more appropriate for conflict research. More importantly, however, should be the development of a universal understanding of emotion that would permit comparable cross-disciplinary research.

CHAPTER NINE

Conclusion

9.1 Introduction

The purpose of this dissertation was threefold: (1) to evaluate a new and expanded model of outdoor recreation conflict, (2) to develop and validate the reliability of a multi-item, multi-dimensional conflict scale, and (3) to investigate the outdoor recreation conflict knowledge transfer process within Canada's national parks.

9.2 Limitations and Future Research

This study attempted to create and validate an emotions-based scale for measuring outdoor recreation conflict occurrences. Preliminary results are encouraging with the scale demonstrating very good reliability and goodness-of-fit indices suggestive of a "good" fitting model. Repeated evaluation of the validity, reliability, and unidimensionality of the scale is necessary. Proof of the scale's predictive validity was established, however the importance of both validating and improving its predictive validity should be a primary concern, especially since my research findings have established that manager's rely heavily on "tools" for collecting much needed information and for implementing changes to the management protocol of park resources. The possibility that emotions and the scale itself could be integrated with current VMFs as a means of adapting currently available tools is also an exciting proposition – an approach that would both satisfy management requirement for tools and provide an updated understanding of conflict occurrences as specified by study participants. Imperative is that predictive validity be further established against previously reported conflict variables. Research has revealed that conflict can be associated with a number of other variables including coping behaviours (e.g., Schuster et al., 2006), environmental attitudes (Jackson, 1989), social values (Carothers, Vaske, & Donnelly, 2001), place attachment (Kyle, Mowen, & Tarrant, 2004),

crowding (Kuentzel & Heberlein, 2003) and tolerance (Albritton, Stein, & Thapa, 2009). Although such variables were included in the predictive validity evaluation here, additional work should work to establish the role of and magnitude of that role in predicting conflict in direct comparison to the scale's three dimensions. The construct validity of the emotions and appraisal dimensions also deserves special attention. It is critical that the items group together and therefore measure the emotional and appraisal components as theorized from the psychological literature on emotions, and are not simply grouping together because of common wording.

Theoretically, eight limitations and additional recommendations for future research are presented. Firstly, development of the scale was based on an interpretation of one understanding of emotions. This was concerned with the elements of pleasure, arousal, mood, and affective appraisals and how they might relate to recreation conflict experiences. Some research (see Mehrabian & Russell, 1974) has suggested that affect also includes a dominance dimension that refers to feelings of mastery, competence, power, and skill. The circumplex model of affect, developed by Russell and Snodgrass (1987), represented much of the theoretical foundation of the current study, as "...the dominance dimension of affect was [found to be] not nearly as important as pleasure and arousal..." (Hull & Harvey, 1989, p. 325). Consequently, Hull and Harvey justify, as I did, the use of the circumplex model because "it offers an extensively studied, theoretically justified, parsimonious description of emotional responses to environments" (p. 325). Additionally, because "there is no formal criteria for what is and what is not an emotion" (Russell, 2003, p. 146), this issue is problematic. As Russell goes on to ask:

are emotions to be conceptualized as brain modes, actions or action tendencies, reflexes, instincts, attitudes, cognitive structures, motives, sensations, or feelings? Are they biologically fixed modules (and hence reducible to biology) or socially constructed roles (and reducible to sociology)? Discrete categories or bipolar dimensions? Cognitive, precognitive, or postcognitive? (p. 146).

As a result, other conceptualizations of emotion should be considered for both: (1) studying emotions as they related to leisure and conflict, and (2) when validating the proposed conflict scale. Finally, research should be conducted to elucidate the three emotional dimensions (i.e., emotions, affective appraisal, core affect) utilized as the foundation for the proposed conflict scale. The psychological literature on emotions is clear on the existence of these components, however, “the order in which these elements occur is still uncertain” (Russell & Barrett, 1999, p. 806). There is also “little agreement on where emotion stops and its causes and consequences begin (Russell, 2003, p. 146). As such the exact role each of these dimensions is playing in the conflict experience is still unclear. The findings indicate that emotion (not appraisal and core affect) is best for explaining occurrences of conflict. The emotion literature does not make such a distinction (e.g., Russell, 2003) and as such work needs to be done to clarify and clearly explain the role and difference (if any) between each of the dimensions.

Secondly, only certain emotions were included in the present study (e.g., annoyance, distress, anger, etc). Watson and Clark (1994) identified and included ten emotions (i.e., afraid, scared, nervous, jittery, irritable, hostile, guilty, ashamed, upset, and distressed) in their development of the positive and negative affect scales (PANAS), but they were actually able to identify six categories of fear, six categories of hostility, six categories of guilt, and five categories of sadness as comprising basic negative emotions. Thus, the inclusion of other emotions, or the replacement of currently used emotions in the conflict scale, should also be considered.

Thirdly, emotional responses have been linked with autonomic nervous system activity characteristic of bodily responses such as increases in heart rate, blood pressure, and skin conductance (Russell, 2003). Evaluation of these responses in association with emotions elicited

through leisure participation was beyond the scope of this study. Other research has called these “sensible feelings” associated with bodily feelings such as dryness of the mouth, sense of weakness, and a pounding heart (Lee et al., 1994). Lee et al. called this “...visceral bodily experiences during leisure participation” (p. 207). Future research should give consideration to investigating these sensible feelings, in particular the role that they may play during the recreation conflict experience (e.g., increased blood pressure concurrent with being emotionally angry with another trail user). For obvious reasons, medical doctors or those familiar with the study of human physiological reactions should be involved as part of the research team undertaking this research.

Fourthly, my study of emotions relies almost entirely on self-report; an unfortunate limitation according to Russell (2003). When studying emotions and emotional reactions, “...it is the state reported rather than the words that are important” (2003, p. 163). As with most previous emotions research, I have relied on a word (e.g., fear, anger, etc) to describe a person’s emotional state. The present study does attempt to paint a more elaborate picture of emotional state through the specifying of statements representative of three dimensions of affect. More research to move beyond words and to begin to describe emotional states is necessary to advance emotions research.

Fifthly, this study is limited because it did not assess the duration of the emotions experienced; purely that certain emotions were and were not experienced. As Lee et al. (1994) state: “researchers have reported that when people participate in recreation activities, they experience...fun, enjoyment, pleasure..., positive mood states...”, but that the leisure experience was recognized to include both positive as well as stressful or unpleasant experiences (p. 196). Lee and Shafer (2002) noted that the moods of recreationists shifted between negative and

positive throughout the recreational experience; in fact emotions fluctuated depending on the types of situations encountered. The question remains though, what is the duration of these affective feelings and conversely, which is the most powerful or has the greatest influence on our leisure experiences? Future research should begin to address these types of questions.

Next, Markus and Kitayama (1991) suggested that emotional experiences could vary across cultures. Given Canada's changing socio-demographic composition, and Parks Canada's recent efforts to attract "New Canadians", research that examines culture, emotions, outdoor recreation, and outdoor recreation conflict would be beneficial. The examination of potential differences between international and domestic visitor perceptions and experiences of conflict would be particularly helpful. It is possible that international visitors to a destination would perceive and even experience conflict differently than domestic travelers because of cultural or experience history differences (i.e, if they have previously experienced conflict). For instance, "The extent to which each culture influences behaviour may be related to similarities, perceived or actual, between a tourist's home and holiday environments" (Carr, 2002, p. 323).

Additionally, the recommendation is for future conflict research to more closely examine the influence of personal and situational factors. Lazarus and Folkman (1984) identified personal and situational or environmental factors as key components of their stress-coping model. Lazarus and Folkman defined stress 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" (1984, p. 21). Emotions are therefore influenced by a variety of personal and situational variables that interact to produce emotional reactions.

Finally, consideration should be given to the influence of group dynamics on the perception and experiencing of recreation conflict. The outdoor recreation experience can be

experienced individually (i.e., by a person seeking solitude in the backcountry) or as a group (i.e., husband and wife taking their family camping) and these differences in travel styles (i.e., alone or as part of a group) may also influence conflict perceptions and reactions to actual situations. The travel and tourism literature suggests that traveler expectations may differ depending on their travel companions (Hanai, Oguchi, Ando, & Tamaguchi, 2008). The authors also point out that “evaluations on satisfaction in almost every situation is amplified in the case of individuals traveling in a group” (2008, p. 273). Therefore individuals recreating alone may report lower levels of satisfaction and may also be more likely to report conflict occurrences compared to people recreating in groups.

Methodologically, three final recommendations are presented. Firstly, in the inclusion of both qualitative and quantitative methods for validating the emotions-based conflict scale and also for developing an accurate understanding of participants emotional experiences. Although qualitative questioning was incorporated into the questionnaire, interviews with participants would possibly allow for a more in-depth understanding and awareness of the emotions experienced, the causes of emotional reactions, and the magnitude of the impact of their emotions. Secondly, this study was also limited because participant reporting of emotions was only measured once. Problems with this include the inability to retrieve affective feelings at multiple points (i.e., times) throughout a person’s experience or over the course of multiple experiences. A methodology similar to that employed by McIntyre and Roggenbuck (1998), where participants were asked to complete an emotions-measure five times throughout a float trip through an underground river, could be utilized. A longitudinal study could also prove valuable for assessing long-term influences of and changes in affective feelings during leisure participation. Changes in affective feelings across a variety of leisure experiences could reveal

important information related to people's leisure behaviour and satisfaction. Understanding emotions post-experience is also worthwhile. What people do in their leisure has a lasting impact. The lasting impact of the emotions experienced during leisure should be considered: "Potentially the most significant impact of leisure induced mood is its influence on the behaviors and cognitions of persons long after they leave the leisure setting" (Hull, 1990, p. 99). Finally, it is recommended that future researchers target people in a variety of leisure settings. The current study collected data in a very large and well-know Canadian national park. Other protected areas of varying sizes with varying levels of visitation should also be included in future research to validate the proposed conflict scale. Researchers should also consider collecting data in urban and suburban recreation settings.

Some additional limitations and recommendations related to the knowledge transfer study are also warranted. This study is potentially limited because only five individuals were interviewed, although this was acceptable based on data saturation considerations (Patton, 2002). Unfortunately, budget and time constraints did not permit the use of snowball sampling, the purpose of which is to, "Identify cases of interest from sampling people who know people who know people who know what cases are information rich..." (p. 243). Participant comments identified other groups and/or positions that would have been important to interview (i.e., park planners, Parks Canada social scientists, members of the National Working Group). Future research should seek out individuals in these positions, most especially, when and if researching knowledge transfer in Parks Canada. It should be noted here that I did originally propose to interview both managers and researchers (i.e., academics). Interviewing researchers was eliminated, however it is highly recommended that researchers be included in subsequent investigations. Findings suggest that researcher-manager relationships are important; although

very little direct contact appears to occur. The nature of the relationship should be evaluated from the perspective of the researcher as well. Finally, my study may or may not have been limited by the diversity of participants involved. Each individual was in a different position at a different level within Parks Canada. This provides a broad view of knowledge, but did not permit detailed examination of the knowledge dissemination involving one particular level of position. Involving only one group of level of individuals (i.e., park planners or park superintendents for instance) should be considered when designing future knowledge dissemination studies. The experience of each person in the knowledge dissemination process and their relationship with academics appears to be highly individual. Talking to only park planners may unearth the nature of these differences. Eventually comparison across positions and levels will be able to be made and the true nature and dynamic of knowledge dissemination revealed.

The preceding identified several limitations of the current research, but also provided a number of recommendations for other researchers wishing to continue researching either the emotional component of conflict, or the knowledge transfer of conflict/recreation information. The following section expands on the previous recommendations and details a direction for my personal career research agenda.

9.3 Future Directions: Career Research Agenda

The current research has highlighted several avenues of future inquiry; more is needed in order to understand emotions, conflict, as well as the dynamics of knowledge use and dissemination. Research related to each of these three areas of inquiry will continue by other researchers; however the intent here is to establish a foundation for my research and in doing so present a career research agenda. The future directions for my research agenda will continue to

explore emotions, the conflict experience, as well as knowledge use and dissemination in the leisure field. On a more personal level I wish to also establish a research program designed to improve the scientific legitimacy of leisure research.

9.3.1 The Use of Leisure Knowledge: A Research Agenda

Xiao and Smith (in press) have said,

...future research should look at the differences between academics and practitioners in perceiving and using tourism [leisure] research knowledge, the facilitators and barriers to use, the motivations and levels of use, and the potential of community-based collaborative research programs in fostering use.

The most obvious point of departure for me is a direct continuation of the knowledge dissemination research undertaken with JNP. This research has established that effective use of knowledge depends on how well researchers are able to communicate their findings, in turn, how well managers/practitioners are able to understand, adapt, and implement research knowledge, and how well and how often the two are able to engage in the transfer of knowledge. The Social Sciences and Humanities Research Council of Canada (2005, p. 7) has stated that “maximum impact of social sciences and humanities research” is dependent on these three characteristics. I envision a follow-up study involving the same participants. Important changes were recommended by them (e.g., less technical jargon, greater explanation of its implementation in the field) for the executive summary as a means of improving its usability. These changes would be made and a newly revised document would be sent to the group of interviewees for evaluation. Interviews would re-evaluate the barriers, confusion, and applicability concerns previously established. This repeat investigation was motivated by three reported findings: (1) managers agreed that my research was relevant to them, appreciating the fact that conflict was being examined from a different perspective (i.e., emotions); (2) that the documentation of my research findings was still “too deep”; and (3) as a consequence was not immediately useful to

the managers. The research would help to answer the following research questions: (1) At what point does relevant research become applicable?, and (2) What are the characteristics of such knowledge?

Findings from the current selection of interviews revealed areas of additional inquiry or questioning that were unfortunately beyond the time frame and scope of the current investigation. Managers identified four additional sources of their research knowledge. These included social scientists working as part of the social science program, the National Working Group, park planners, and third party organizations hired to conduct literature reviews. Previous research has not given much attention to the role of “intermediaries” in the knowledge dissemination process. Concern has surrounded how well academics are able to communicate their research findings directly to managers/practitioners (e.g., Lewis, 2007). There is no denying that managers and academics need to establish strong relationships built on trust and communication. And, to be clear here, I am not suggesting that academics should no longer be concerned with whether or not their research is comprehensible by managers. Instead, my research has shown that multiple avenues are exploited when access to research knowledge is necessary and examination of these avenues has been neglected. Discussion with members from each of the four groups is needed in order to understand their exact role in the transfer of knowledge. Results could alter our current understanding of the process of knowledge transfer.

Advancing my research beyond the boundaries of Parks Canada is critical. Parks Canada is a very large organization, whose budget and resources is likely to exceed those of smaller organizations (e.g., Ontario Parks, Alberta Parks, Conservation Authorities, etc). These organizations will likely share many of the same goals and missions and therefore are also likely to need and rely on research knowledge to inform their management decisions. My future career

research agenda will include analysis of the knowledge transfer process of these and other similar organizations. The research will also allow for comparisons between organizations (e.g., Parks Canada and Ontario Parks) to be drawn. One of the concerns that have grown from the current research is the apparent lack of sharing that exists between various organizations. None of the managers who were interviewed reported communicating with other Canadian organizations, such as Conservation Authorities. One participant indicated a curiosity for situations occurring in other parks in the “remote U.S. states”. It seems likely that these organizations could be valuable assets for each other in both creating and sharing of important research findings. Development of a stronger network or program of leisure science sharing would be a desired outcome of my future knowledge transfer research. The catalyst for this to occur is uncertain, although a number of possibilities do exist. The inclusion of managers in the publication process (Melzer & Ellis, 2009), the creation of a virtual science park (See Chan et al., 2009, for an overview of science parks), and the use of information technology and social media to communicate may prove appropriate. Avenues for improved sharing capacity would be investigated.

As a spin-off to researching the knowledge transfer process, it would also be valuable to re-examine the relevance of leisure research (Hemingway & Parr, 1999; Kelly, 2000). If research and conversely the findings from research are not relevant to societal and managerial needs, use of knowledge is likely to suffer. Examination of the relevance of leisure research through the lens of values and ideologies is a necessary step and supported by Stewart et al. (2008) in their discussion of the values and ideologies associated with “writing leisure”. They hold that “research questions...should be constructed in light of the intended impact and vision for social reality” (p. 376), and then go on to add that, “centering research rationales on society

[or end-states about society such as health, social justice, empowerment], rather than leisure, may re-orient discussion about the ‘gap’ between theory and practice” (p. 376). This research would require an examination of the discourse guiding leisure research, particularly outdoor recreation research.

On a related but personal level I would like to work to improve the scientific legitimacy of leisure research. Throughout the duration of my time as a student I have routinely recognized the value and benefit of leisure on behalf of various members of society who, unfortunately, viewed the same with confusion and even occasionally derision. This is not necessarily surprising, but it is a mistake to suppose that leisure research is simply fun and games (Cooper, 1999). Cooper discussed this very phenomenon through what was called, “Leisure fetishism”. This claims that the social, psychological, and physiological benefits provided by leisure are downplayed, allowing leisure to be recreated throughout societal discourse as mere fun and games. The result is that the legitimate scientific study of leisure is received with an “oddness objection”; “...the very idea of a serious study of leisure, not to mention a science of leisure, is intellectually suspect” (p. 4). The Social Science and Humanities Research Council of Canada (SSHRC) is not blind to the de-valued nature of social science either, and it has stated that: “currently, there is little incentive, support or access for individuals wishing to specialize in the social science aspects of environment and sustainability within the higher education system” (2002, p. 9). Granted, this statement may now be viewed by some as incorrect or exaggeration, it nonetheless illustrates that within the past decade one of the foremost supporters of social science research recognized the hurdles faced because of recognition as a “less legitimate” science. It is easy for SSHRC and leisure scholars to be convinced of the legitimacy of the science of leisure research, the challenge comes in converting the general public, or other

scholars outside of the field of the true nature of leisure research. The mechanism for substantiating the scientific legitimacy of leisure research is not easily identifiable. A study of public perceptions, not of leisure's importance but of the value of leisure research, may provide a springboard to improve public awareness. I also believe that a study of the perceptions of scholars working in other departments, especially natural science departments (e.g., mathematics, physics, engineering, chemistry, etc), would be invaluable.

9.3.2 Emotions and the Study of Conflict

The most logical and appropriate next step is repeated theoretical validation of the three dimension multi-item emotions-based conflict scale. Current findings support three factors with predictive power when it comes to experiencing conflict. Validation in different environments with different users groups is currently still needed. My scale was developed largely from the emotions work of Russell (e.g., 1980), whose research stressed a circumplex model of emotions whereby emotions could be categorized based on their level of pleasure-displeasure and arousal-activation. Hull and Harvey (1989) attempted to explain people's emotions using the circumplex model. They did however; recommend that validation of the model be conducted to ensure that it would differentiate between environments. There was also some concern that the emotions dimension in the current research may have actually been capturing a crowding element based on the wording of the items. Likewise the wording of the appraisal items were very reflective of inappropriate behaviours, and so, additional work will need to be done in order to verify that these two dimensions are capturing the emotional component as originally intended.

Pragmatically, I also wish to validate the effectiveness of the scale as a "tool" for managers and practitioners. This notion of tools was emphasized throughout the qualitative portion of my investigation and the hope has always been that my emotions-based scale would serve as a

measure to assist managers in learning about the conflict experiences of their visitors, and to help them identify and understand the causes. I envision this practice-level research being undertaken once the theoretical reliability and validity of the scale has been further established. Establishing the scale as a usable tool will require a coordinated research effort with managers/practitioners working in various protected area organizations (e.g., Parks Canada, Alberta Parks, Ontario Parks, and Conservation Authorities). I do however, envision continued work with the managers of JNP, who have already provided much needed feedback and whose interest in the scale as a tool has already been established.

Conversely, there is still much that needs to be learned about emotions and the leisure experience in general. Some of the questions I hope to answer as part of a future research program include:

- 1) What emotions do people actually experience during leisure?
- 2) How often (i.e., frequency) throughout a leisure experience are positive and/or negative emotions experienced?
- 3) What influence do these emotions have on a person's enjoyment and satisfaction?
- 4) What are the variables (human or environmental) that influence or impact a person's emotions? (Farber & Hall, 2007, for example, hold that scenery, recreational activity, wildlife, and social interaction are the four categories of stimuli that elicit emotional responses in natural settings.)
- 5) Does the type of environment where the recreation experience takes place influence the type of emotions experienced? (Hull & Harvey, 1989, for instance, investigated molar environments, or places, and suggested that people's experiences may differ based on the molecular make-up of the environment [e.g., tree density, amount of open space, etc].

They suggested that differences in emotional experience may exist depending on the environment [e.g., park vs built environment].)

- 6) What is the influence of preferred versus experienced emotion? (Hull & Harvey, 1989, noted that people may enter a recreation experience with expectations associated with a certain emotion or emotions, but may end up feeling something completely different. Similarly, some people enter an experience hoping to feel some level of stress and anxiety that is associated with their chosen activity [e.g., rock climbing], but may experience stress and anxiety caused by another person.)
- 7) Can a single emotion (e.g., negative) dominate to the detriment of other emotions (e.g., positive)? (Lee & Shafer, 2002, p. 36, for example, asked a similar question, that is: “are there single events that might dominate the emotional tone regardless of changes along the way?”.)

Examination of these and other questions would be well served through the use of both quantitative and qualitative methods of inquiry. Statistical analysis will be necessary when trying to establish the existence of relationships between certain emotions and various human and environmental characteristics for instance. However, a qualitative approach would permit a much deeper look into people’s emotions, why they experience certain emotions, the true impact of emotions on the leisure experience, etc. Through qualitative methods researchers can understand “respondents’ level of emotion, the way in which they have organized their world, their thoughts about what is happening, their experiences, and their basic perceptions” (Patton, 1980, p. 28, cited in Lee & Shafer, 2002).

Setting aside emotions there are three additional areas of conflict research that I also wish to investigate. The first is recreation conflict in urban settings. There seems to be a

disproportionate amount of conflict research associated with wilderness settings, however it is naive to think that the causes of conflict in rural settings are not present in urban ones as well. People recreating in urban settings are participating in a diversity of activities (e.g., biking, running, dog walking, etc), are doing so while sharing space with other users, and do so with a variety of motivations and goals that are likely to compete with those of other users. With regard to place research, Stewart et al., recognized the overall neglect of suburban and urban locales in favour of wilderness. They state that: “when the narrative of one landscape is socially and politically privileged through decades of build-up, other meanings and other landscapes decrease in status” (Stewart et al., 2008, p. 372). Could it be that urban settings have been de-valued and neglected as true locations for meaningful leisure experiences to occur? Additional research will help fill this urban recreation gap. Secondly, I would like to re-evaluate the impact of crowding. My findings as well as those of others (e.g., Clark et al., 2009; Tumes, 2007) suggest that people are much more tolerant of meeting other users and that the biggest problem might instead be inappropriate or disrespectful behaviours (e.g., Carothers et al., 2001; Mann & Absher, 2008; Vaske et al., 2004). This does not mean to suggest that crowding may no longer be an issue, instead that under certain circumstances it may be more appropriate to concern oneself with behaviours as opposed to number of people. Finally, I would like to research the discourse, values, and ideologies that have been created around crowding and conflict and how they have been perceived by visitors and managers. Wilderness has been privileged as pristine land and therefore encountering other people must surely detract from a person’s experience (Stewart et al., 2008). Similarly, these “encounters” must also result in conflict. As Stewart et al. have stated more broadly “...outdoor recreation research could benefit from explicit recognition of the values and ideology in its various discourses” (p. 374).

The preceding research agenda details several areas of future investigation in the areas of knowledge dissemination, emotions, and conflict. Completion of these research projects may not be possible during an academic career. A future direction, however, has been identified; a direction that is theoretical, practical, and philosophical in nature.

9.4 Conclusion

At the outset of this research two broad, but primary goals existed. The first was to theoretically advance the current understanding of outdoor recreation conflict. The second was to offer a comprehensive analysis of the knowledge transfer process occurring with outdoor recreation and conflict research. The author had concerns that important conflict research was not being incorporated into the management decisions of those individuals charged with the preservation of protected areas. Creation of a new theoretical understanding of conflict seemed unproductive if it were to remain unseen or unused by those who require this type of information the most.

Theoretically, the study concludes by offering a 13-item, three dimensional emotions-based conflict scale that is statistically valid and reliable. Although additional validation of the construct validity of each dimension will be required before a definitive conclusion can be drawn, the scale appears to capture the emotional reaction of people to conflict occurrences. Correlations and regression additionally establish the predictive validity of the scale. All three dimensions of the scale were moderately positively correlated with “I have experienced conflict today while on the trails” and were identified as the three best predictors of conflict, even when previously regarded conflict variables were taken into consideration.

Results from the knowledge transfer study do show that barriers do exist precluding the effective use of important recreation/conflict information. These barriers included time, budget

restrictions, difficulty building and maintaining relationships, and how research information was presented. The former two are out of the control of researchers (academics) and therefore the latter two are of particular importance for the present investigation. Interestingly, managers reported very little direct contact with academics, but still regarded such relationships as very important. Their wish was that academics would take a stronger initiative in contacting managers regarding potentially relevant research findings. Managers were also eager to streamline the communication process. Solutions were largely centered around the development of a common understanding of the research language. Research that was presented to them in a way that was free of technical jargon and that was short and succinct was most appealing to managers. This kind of research could become or be used to create the much needed “tools” of resources management. None of these findings is surprising and has been previously expressed (e.g., Wright, 2003).

Perhaps the biggest contribution from the current investigation comes from conclusions regarding “intermediaries” and their role in the communication process. Managers identified several different avenues of access to research information. These included park planners, social scientists working as part of the social science program, members of the National Working Group, and third party outsourcing. The nature of their relationship with each of these groups is not completely understood, however the importance of these groups in communicating research was plainly apparent. Communication appears to flow through these different groups, and therefore the communication of research from academics to these groups is deserving of increased attention by future researchers. The present study failed to provide a comprehensive investigation, but revealed the steps necessary for a comprehensive investigation to take place. The future paths of continued research have been laid out. The hope is that validation will

produce a scale that may become a “tool” for park managers, and that improved knowledge communication can result.

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APPENDIX A

Evaluation Procedures

One of the primary objectives of my proposed doctoral research is to develop and validate a multi-item and multi-dimensional scale to assess people's negative emotions as a result of user conflict occurrences in outdoor recreation settings.

As a recreation professional familiar with a) the recreation literature, b) outdoor recreation conflict and parks management literature and c) scale development and validation you are being asked to help validate quantitatively as well as qualitatively a total of 36 scale items.

Background:

Previous research has suggested that the leisure experience is dynamic and multi-dimensional (Hull, Stewart, & Yi, 1992; Lee, Dattilo, & Howard, 1994; Lee & Shafer, 2002) and includes both positive as well as stressful or unpleasant experiences. Specifically, Lee and Shafer noted that recreationists emotions fluctuated depending on the types of situations encountered. More importantly, Hull et al., (1992) recognized the relevance of emotions, moods, and other affective feelings for leisure research with Hull (1991) identifying mood as specific subjective feelings that are "one of the more relevant products of leisure management efforts" (p. 249). Unfortunately, there is limited information in the leisure literature that identifies what emotions occur and why (Lee & Shafer). Using emotions to understand of user conflict seems, however, to be a vital step that has thus far been largely overlooked.

Research by Russell (1980; 1999; 2003) and Russell and Snodgrass (1987) in psychology and Vitterso, Chipeniuk, Skar, and Vistad (2004) in the leisure literature have attempted to study people's emotions. Russell (1980) proposed a bipolar two-dimensional circular model of affect measured using pleasure-displeasure and activation-deactivation. Work by Russell and Snodgrass and Russell and Barrett (1999) identified 1) affective/cognitive appraisals and distinguished between people's 2) emotions and their 3) core affect.

According to my proposed model of outdoor recreation conflict, conflict is now the experiencing of negative affect measured by people's affective/cognitive appraisals, their specific emotions, and their core affect. All three concepts are related or connected. When viewed as a whole, affective/cognitive appraisals, emotions, and core affect represent the elements behind an "emotional episode". In the case of conflict, it would be a "negative emotional episode".

The three concepts/dimensions can be more easily understood as:

3 Domains/Dimensions:

(A) *Core Affect*: Core affect is represented specifically by our changing feelings of pleasure-displeasure and activation-deactivation. A person may become extremely frustrated (*displeasure*) and simultaneously become more *active* (i.e., no longer as calm or relaxed as they previously were). A person may enter a recreational experience in a particular mood state (i.e., core affect). An item designed to measure this might read, **“I felt happy at the start of my recreational experience”**. The intensity (i.e., heightened level of displeasure and tension) is likely to increase when experiencing a negative emotional episode such as recreation conflict. An item signifying this change might read, **“I became increasingly anxious throughout my recreational experience”**.

(B) *Emotions*: Quite simply these are the specific feelings that one experiences/feels. For example, these might include those feelings of being angry at someone, or frustrated by the actions of another person while hiking on the trail. In general, this reflects the realization that you have a specific emotion that is directed at someone or something. An example of an emotional item might read, **“I was angry at a group of cyclists”**.

(C) *Affective/Cognitive Appraisals*: Represent how we interpret other people, places, events and things, and as such make a judgment about its attractiveness or repulsiveness. Specifically, affective/cognitive appraisals are those judgments concerning the capacity of the appraised object to alter our mood. These are our attributions, the way we mentally or cognitively make sense of the situation/event occurring around us and the impact that it is having on our mood or affective state. It permits us to be aware of our mood or emotional state. A person will become more aware of their emotions through appraisals by assigning a context or a source as the cause of their specific emotions. Such sources may include the behaviors of other people, the condition of the natural environment, etc. An example of an appraisal item might read, **“I was angry at a group of cyclists because of their reckless behavior on the trail”**.

Evaluation Instructions:

Below is a list of 36 statements (scale items) each belonging to or attempting to measure one of the three constructs/dimensions defined above (i.e., affective/cognitive appraisals, emotions, and core affect).

Using the seven-point likert scale of **1=very poor fit** to **7=excellent fit**, and selecting from the drop-down menus, please rate **each item's** item-content relevance with **each of the 3** constructs/dimensions. *NOTE*: “Item content-relevance refers to the degree to which the content (or subject matter) contained within a test item is representative of the ‘targeted construct’ that the item is designed to measure” (Dunn et al., 1999, p. 16).

In order to strengthen the quantitative portion of the scale item evaluation please provide, below each item, in the shaded box, any comments, feedback, or suggestions that you feel are necessary. Please provide explanations or reasons why you believe particular items are “poor

fit” or “excellent fit” for particular dimensions/constructs. Please highlight any words or phrasings that you feel are problematic.

(1) I became upset, which made my recreation experience unpleasant.

Affect (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Appraisal (C)	select a rating from the drop down list

Other Comments:

(2) My recreation experience today was very unpleasant.

Affect (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Appraisal (C)	select a rating from the drop down list

Other Comments:

(3) I became irritated after being disturbed by a group of noisy people.

Affect (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Appraisal (C)	select a rating from the drop down list

Other Comments:

(4) My recreation experience was disappointing, which left me feeling depressed.

Affect (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Appraisal (C)	select a rating from the drop down list

Other Comments:

(5) I experienced intense feelings of displeasure during my recreation experience.

Appraisal (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Affect (C)	select a rating from the drop down list

Other Comments:

(6) I felt contempt towards other trail users because they interfered with my personal goals.

Affect (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Appraisal (C)	select a rating from the drop down list

Other Comments:

(7) I felt very apprehensive when around too many people along the trail.

Affect (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Appraisal (C)	select a rating from the drop down list

Other Comments:

(8) I felt anger towards another person(s).

Affect (A)	select a rating from the drop down list
Emotion (B)	select a rating from the drop down list
Appraisal (C)	select a rating from the drop down list

Other Comments:

(9) I felt scared of other trail users because of their behaviour.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(10) I felt tense (as opposed to calm and relaxed) during my outdoor recreation experience.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(11) I felt dissatisfied with my recreation experience because of my encounters with other trail users.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(12) The behaviour of another person made me feel angry and created an immediate feeling of intense displeasure.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(13) I was very unhappy when I was finished participating in my outdoor recreation activity.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(14) I was frustrated with several other people on the trail.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(15) I felt disgust towards other trail users.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(16) I was alarmed by the inappropriate behaviors of other trail users.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(17) I was annoyed because other trail users were damaging/disrespecting the natural environment.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(18) I experienced a change in my feelings of general happiness to feeling tense during my involvement in my outdoor recreation activity.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(19) I felt hatred towards another group of trail users.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(20) I felt anxious while engaged in my outdoor recreation activity.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(21) I felt sad because the actions of others detracted from the enjoyment of my recreation experience.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(22) I became angry because of the behaviour of another trail user.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(23) My general demeanor changed from being relaxed to feeling anxious.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(24) I felt distressed during my recreation experience.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(25) I felt annoyed by other trail users around me.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(26) Overall, my feelings changed from happy to sad during my outdoor recreation experience.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(27) I felt disgust because of the reckless and careless behaviour of other trail users.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(28) I felt tense when around other people on the trail.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(29) I felt frustrated because the trail was so crowded.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(30) I became nervous and no longer felt relaxed while engaged in my outdoor recreation experience.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(31) I became upset as a result of encountering too many other trail users.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(32) I felt scared when around other people on the trail.

Affect (A) select a rating from the drop down list
Emotion (B) select a rating from the drop down list
Appraisal (C) select a rating from the drop down list

Other Comments:

(33) The stress caused by the actions of another recreationist made me feel unpleasant.

Affect (A) select a rating from the drop down list
 Emotion (B) select a rating from the drop down list
 Appraisal (C) select a rating from the drop down list

Other Comments:

(34) I wasn't able to enjoy my leisure experience as much as I hoped/wanted because of an encounter with another group of trail users.

Affect (A) select a rating from the drop down list
 Emotion (B) select a rating from the drop down list
 Appraisal (C) select a rating from the drop down list

Other Comments:

(35) I was very dissatisfied with my recreation experience today.

Affect (A) select a rating from the drop down list
 Emotion (B) select a rating from the drop down list
 Appraisal (C) select a rating from the drop down list

Other Comments:

(36) I felt angry towards another recreationist, which made me feel stressed.

Affect (A) select a rating from the drop down list
 Emotion (B) select a rating from the drop down list
 Appraisal (C) select a rating from the drop down list

Other Comments:

NOTE: When complete, please save your feedback according to the following format, Example:
 Andrew_Spiers_ExpRev.doc and email as an attachment to Andrew at aspiers@ualberta.ca.

APPENDIX B

Focus Group Questions

- (1) Where do you most often like to go hiking?
- (2) What is it about that location that makes it so appealing?
- (3) Have you ever had or experienced a negative hiking experience?
- (4) What types of events, situations, or behaviours of others disturb you the most when hiking? What type of reaction do you typically have to these situations/people?
- (5) How would you define [outdoor recreation user] conflict?
- (6) Do the negative experiences impact upon future behaviour/leisure participation? If so, what sorts of alterations do you make?
- (7) Are you conscious of your emotions during the experiencing of a negative event (i.e., situation) during outdoor recreation participation?
- (8) Are you aware of emotional changes from positive to negative because of particular events of encounters? How? What is it that you become aware of or notice?
- (9) What types of incidences generate the strongest negative emotions? (e.g., careless behaviour, violent behaviour, littering, crowding, etc).
- (10) At what point throughout the experiencing of negative emotions (i.e., going from feeling happy to feeling a negative emotion) would you say that you are experiencing conflict?
- (11) What exactly is it about the situation or the way you are feeling that leads you to believe that it is conflict you are experiencing?
- (12) What kinds of mental processes/cognitive assessments are occurring when a negative emotion is experienced? (Do you evaluate the person or situation causing the event, look for a way to distance yourself from the cause, alter your plans that you had in created for the day?)
- (13) Does your evaluation of the negative event or object differ from the assessment of continuing your activity? In other words what connection is there between your negative evaluation and the future decisions you make regarding whether or not you continue participation or alter it in some way?
- (14) Does a change in your mood have a negative effect on the rest of your participation? Why? Why not? How? Please describe.

(15) Does the magnitude of the negative emotion(s) you are experiencing have an impact on its influence on how you feel?

(16) Are the negative emotions experienced only in the short term (i.e., a few minutes), in the long-term (i.e., perhaps the rest of the day, such as being in a bad mood), or both?

Are there any other comments regarding your previous negative experiences or your emotions that you would like to share?

APPENDIX C

Preliminary List: Outdoor Recreation Conflict Scale Items
(Use of 5 point likert-scale from Strongly Disagree to Strongly Agree)

Emotional:

- (1) I felt angry towards another recreationist because of their careless attitude around others.
- (2) I experienced feelings of frustration because I encountered too many people during my outdoor recreational pursuit.
- (3) It disgusted me to witness the reckless behaviour of others.
- (4) I experienced feelings of irritation when I was disturbed by a noisy group of people.
- (5) I felt hatred towards a group of people because they were damaging/disrespecting the natural environment.
- (6) I felt contempt towards other because they interfered with my personal goals for participation.
- (7) I felt annoyed when I encountered a group of people participating in an activity that was different from my own.
- (8) I felt tense when surrounded by other people.
- (9) I was alarmed by the inappropriate behaviours of other recreationists.
- (10) My recreational experience was disrupted by other recreationists.
- (11) The behaviour of others distressed me.
- (12) I became angry because of the behaviour of another recreationist

Cognitive Appraisal:

- (1) I felt stressed and no longer wanted to continue participating in my outdoor recreational activity.
- (2) I lost all desire to continue participating in my chosen outdoor recreational activity.
- (3) I became upset, which made my recreational experience unpleasant.
- (4) I became agitated during my recreational involvement and needed to move to another location.
- (5) I felt stressed and needed to confront a group of people because of their behaviour.
- (6) I felt very depressed when the actions of others detracted from my recreational experience.
- (7) I felt helpless because I could not change the negative situation I was experiencing.
- (8) The behaviour of another person made me feel angry and created an immediate feeling of intense displeasure.
- (9) I would consider myself to be in a "bad mood" because of a negative encounter while engaged in my outdoor recreational activity.
- (10) Because of a negative encounter, my outdoor recreational experience was more unpleasant than it was pleasant.
- (11) I experienced negative feelings during my outdoor recreational experience that made me want to disengage from participation.
- (12) I felt angry towards another recreationist, which made me feel stressed.

- (13) I encountered other people or groups during my recreational experience that created feelings of negative emotions (e.g., anger, stress, frustration, etc).
- (14) The behaviour of others encountered during my recreational experience altered my mood from positive to negative.
- (15) The stress caused by the actions of another recreationist created unwanted feelings of unpleasantness.
- (16) I became no longer excited to participate in my outdoor recreational activity because of a negative encounter with another individual or group.
- (17) I experienced feelings of annoyance during my recreational experience.
- (18) I experienced feelings of dissatisfaction following my recreational experience.
- (19) I was angry at at least one point during my recreational experience.
- (20) I was frustrated because my recreational experience did not go as planned.

Core Affect:

- (1) I became no longer excited to participate during my participation in my outdoor recreational activity.
- (2) I became nervous and no longer felt relaxed while engaged in my outdoor recreational experience.
- (3) Overall, my feelings changed from happy to sad during my outdoor recreational experience.
- (4) My general demeanor changed from being relaxed to feeling anxious.
- (5) The joy of participation decreased when I became sad.
- (6) I experienced anger, which also made me feel discontented.
- (7) I experienced feelings of displeasure, which made me feel very grumpy.
- (8) I was experiencing positive feelings (i.e., pleasure, happiness, contentment) prior to encountering a person and/or event that created negative feelings for me.
- (9) I experienced a change in my feelings from calm, relaxed, and serene to tense, nervous, and stressed during involvement in my outdoor recreational activity.
- (10) The positive feelings (e.g., contented, happy, calm) experienced today were influenced mostly by the weather.
- (11) The negative feelings (e.g., upset, stressed, tense) experienced today were influenced mostly by the weather.
- (12) The negative feelings experienced today were the result of something other than another person, event, or the weather.
- (13) I'm in a "bad mood" following my outdoor recreational experience and I'm not really sure why.
- (14) My recreational experience today was very unpleasant.
- (15) I felt tense as opposed to calm and relaxed during my outdoor recreational experience.
- (16) I experienced a change in how I felt, from happy to sad.

7. During the past 30 days how many times have you **typically encountered** the following trail users while using the trail network around the Town of Jasper?

	Never	1-2 times	3-4 times	5-9 times	10+ times
Hikers/Walkers	<input type="checkbox"/>				
Horseback Riders	<input type="checkbox"/>				
Mountain Bikers	<input type="checkbox"/>				
Joggers	<input type="checkbox"/>				
Dog Walkers	<input type="checkbox"/>				
Other:	<input type="checkbox"/>				

8. Please indicate your agreement with the following statements (Circle the most appropriate number).

- a) On average I am satisfied with my recreation experience on the trail network around the Town of Jasper.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

- b) I have very strong feelings of attachment to the trail network around the Town of Jasper.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

- c) I have very strong feelings of attachment to Jasper National Park.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

- d) I usually encounter more people than is desirable while using the trail network around the Town of Jasper.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

- e) I can easily substitute another location that satisfies my recreational needs for the trail network around the Town of Jasper.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

- f) I am easily disturbed or irritated by the actions of others I encounter while participating in my outdoor recreational activities.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

9. Please indicate the positive emotions that you experience during your outdoor recreation experiences (Check all that apply).

happiness joy elation excitement delight pleasure thrill

enjoyment satisfaction calmness contentment relaxation

Other:_____.

10. From the list above, what is the single positive emotion that you experience the most?

_____.

11. Please describe the most common cause of this positive emotion.

12. Please indicate the negative emotions or feelings that you have experienced during an outdoor recreational experience (Check all that apply).

Tension Nervousness Stress Anger Depression Sadness Unhappiness

Disgust

Irritation Rage Anxiety Frustration Fear Other (please

indicate)_____.

13. From the list above, what is the single negative emotion that you experience the most?

_____.

14. Please describe the most common cause of this particular emotion.

Outdoor Recreation Conflict

The following section is designed to explore your feelings towards conflicts with other trail users and the impact that encounters with other trails users have on your outdoor recreation experience.

15. Based on your previous experience how would you describe or define outdoor recreation conflict?

16. Thinking about your most preferred trail activity, how would each of the following situations effect your experience?

	Strongly Detract	Somewhat Detract	No Effect	Somewhat Enhance	Strongly Enhance	Unsure/ No Opinion
Encountering many other users on the trail	<input type="checkbox"/>					
Seeing dogs off leash on the trail	<input type="checkbox"/>					
Exposed roots/wear on the trail (e.g., environmental damage)	<input type="checkbox"/>					
Seeing others using unofficial trails (unmarked trails not included on the Parks Canada trail map)	<input type="checkbox"/>					
Excess noise caused by other trail users	<input type="checkbox"/>					
Witnessing disrespectful behaviour	<input type="checkbox"/>					
Encountering people participating in a different activity	<input type="checkbox"/>					
Encountering people with different environmental values	<input type="checkbox"/>					
Encountering people with different recreational values	<input type="checkbox"/>					
Experiencing a negative emotion as a result of an encounter with another trail user(s)	<input type="checkbox"/>					
Experiencing a positive emotion as a result of an encounter with another trail user(s)	<input type="checkbox"/>					
Having your personal goals interfered with	<input type="checkbox"/>					
Other: _____.	<input type="checkbox"/>					

17. While using trails around the town of Jasper, I am most often disturbed by (Please check only one):

- Mountain Bikers Dogs off leash Hikers/Walkers Joggers
 Horseback Riders I have never been disturbed
 Other:(specify):_____

18. Please indicate your agreement with the following statements: (Circle the most appropriate number). *These statements are designed to help us learn more about your outdoor recreation experiences in general.*

a) My outdoor recreation experience is ruined when I experience a negative emotion.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

b) I usually stop participating in my outdoor recreation activity if the negative emotion is powerful enough.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

c) I often change the activity I am participating in if the negative emotion is powerful enough.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

d) I often change the location of my participation if the negative emotion is powerful enough.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

e) I have experienced conflict on a trail in the past 30 days.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree

f) I experienced conflict today while on the trail.

1-----2-----3-----4-----5-----6-----7
Strongly Disagree Strongly Agree



Conflict Scale

The following section is designed to assess the relationship between outdoor recreation conflict, the negative emotions that may arise, and the magnitude of their impact on people's outdoor recreation experiences. Please circle your level of agreement with each of the statements. Even if you haven't had a negative experience today we would still appreciate your response to the following statements.

Items	Strongly Disagree							Strongly Agree
1. My recreation experience today became very unpleasant.	1	2	3	4	5	6	7	
2. I felt tense (as opposed to calm and relaxed) during my outdoor recreation experience.	1	2	3	4	5	6	7	
3. I felt apprehension towards other trail users.	1	2	3	4	5	6	7	
4. I felt contempt towards other trail users because they interfered with my personal goals.	1	2	3	4	5	6	7	
5. I felt anger towards another person(s).	1	2	3	4	5	6	7	
6. I felt displeasure with my recreation experience because of my encounters with other trail users.	1	2	3	4	5	6	7	
7. My recreation experience today was very enjoyable	1	2	3	4	5	6	7	
8. I experienced a change from feeling happy to feeling unhappy during my involvement in my outdoor recreation experience.	1	2	3	4	5	6	7	
9. I was frustrated with several other people on the trail.	1	2	3	4	5	6	7	
10. I was upset by the inappropriate behaviours of other trail users.	1	2	3	4	5	6	7	
11. My mood changed from feeling relaxed to feeling anxious.	1	2	3	4	5	6	7	
12. I felt excited towards encountering other trail users.	1	2	3	4	5	6	7	
13. I felt disgust towards other trail users.	1	2	3	4	5	6	7	
14. I was annoyed because other trail users were damaging/disrespecting the natural environment.	1	2	3	4	5	6	7	
15. I became nervous while engaged in my outdoor recreation experience.	1	2	3	4	5	6	7	
16. I felt a sense of anxiety towards other trail users.	1	2	3	4	5	6	7	
17. I became annoyed because of the reckless and careless behaviour of other trail users.	1	2	3	4	5	6	7	
18. Overall, my feelings changed from happy to sad during my outdoor recreation experience.	1	2	3	4	5	6	7	
19. I felt hatred towards another group of trail users.	1	2	3	4	5	6	7	
20. I became angry because other trail users were not obeying appropriate trail etiquette.	1	2	3	4	5	6	7	
21. I felt distressed by the disrespectful behaviour of other trail users.	1	2	3	4	5	6	7	
22. I was happy while engaged in my outdoor recreation experience.	1	2	3	4	5	6	7	
23. I felt frustrated because the trail was so crowded.	1	2	3	4	5	6	7	
24. I felt annoyed by other trail users around me.	1	2	3	4	5	6	7	
25. I was upset because I encountered too many other trail users.	1	2	3	4	5	6	7	
26. I wasn't able to enjoy my leisure experience as much as I hoped/wanted because of an encounter with another group of trail users.	1	2	3	4	5	6	7	

Recreation Experiences

19. I would consider myself to possess a high level/degree of knowledge and expertise about this trail network.

(Please circle the most appropriate number)

1-----2-----3-----4-----5-----6-----7
 Strongly Disagree Strongly Agree

20. There are many reasons for using the day-use trail network around the Town of Jasper. Please indicate how important the following outcomes are for you when participating in today's outdoor recreation activity.

a) To develop my skills and abilities

b) To have a stimulating and exciting experience

c) To experience a Canadian Mountain National Park

d) To be with friends

e) To be with people who enjoy the same things I do

f) To enjoy the scenery

g) To be close to nature

h) To relax physically

i) To experience fun

j) To explore a new trail

k) To use a familiar trail

l) To exercise and challenge myself

m) To avoid encounters with other trail users

n) To escape my daily routine

APPENDIX E

Interview Questions

- Good morning/afternoon/evening, I want to thank you for taking the time to conduct this interview and to be involved in my study.
- The primary purpose of this interview is to develop a stronger understanding of how academic research or knowledge is used (i.e., if it is used, in what types of applications), how useful and usable you as a practitioner in the area of outdoor recreation management feel current and previous research is, and to investigate aspects related to the researcher-practitioner relationship (i.e., strengths of current relationship, weaknesses, areas of concern and improvement etc).
- All information will be kept strictly confidential and anonymous. You can withdraw at any time or refuse to answer questions.
- Do you have any additional questions or concerns before we begin?

NO – continue with interview

YES – address questions/concerns then continue with interview

- Before we begin I would also like to confirm that you do in fact agree to participate in this interview that is anticipated to last approximately 1.5 hours?

Participant says NO: Do not begin

Participant says YES: Begin interview

- 1) What is your position/job within Parks Canada?
 - Duties?
 - Primary responsibilities?
- 2) What kinds of challenges do you face with your job/management of the park?
 - Outdoor recreation conflict issues?
 - Crowding?
- 3) What kinds of information do you rely on to be able to do your job effectively?
 - Research publications?
 - Which journals (JLR, LS, JPRA?)
- 4) What aspects of academic/research publications do you find particularly useful?
 - Theories?
 - Models?
 - Conclusions & Recommendations?
 - What is it about these aspects that makes them useful for you?
- 5) What aspects of academic/research publications do you find particularly less useful?
 - What is it about these particular aspects that make them less useful for you?
 - Difficult to understand?
 - Difficult to apply in management applications?

- 6) What types of outdoor recreation conflict and outdoor recreation management information do you use?
- 7) Given your position within Parks Canada, what is your perception of the usefulness of current outdoor recreation research/knowledge?
 - Quality concerns?
 - Easily understood by yourself and others in your field?
 - What is it about these aspects that makes current outdoor recreation/conflict information less useful for you?
- 8) As we have already identified, there are a number of academic sources of information that contain potentially important information for you regarding outdoor recreation management/conflict. What is your perception of the current level of use of these sources of outdoor recreation management/conflict knowledge?
 - Frequency of application?
 - Types of applications where information has been applied?
- 9) What are your motivations for wanting to use outdoor recreation management/conflict knowledge in your position?
- 10) What types of barriers exist that may be inhibiting the use of outdoor recreation management/conflict knowledge?
 - Problems with the way research is conducted?
 - Theoretical Vs. Practical papers?
 - How new academic knowledge is disseminated to other individuals?
 - Not relevant to current needs and goals of Parks Canada?
 - Funding?
 - Structure of organization?

We have discussed in a general sense various aspects related to your use of academic/research knowledge/information, and more specifically information relating to outdoor recreation management/conflict. Research however is always expanding as studies reveal new insights that propose to solve previously identified problems. You were provided with “new” information in the form of a theoretical framework and multi-dimensional scale designed specifically to offer a better understanding of outdoor recreation conflict and its management. I would like now to ask you some questions specifically related to this new research.

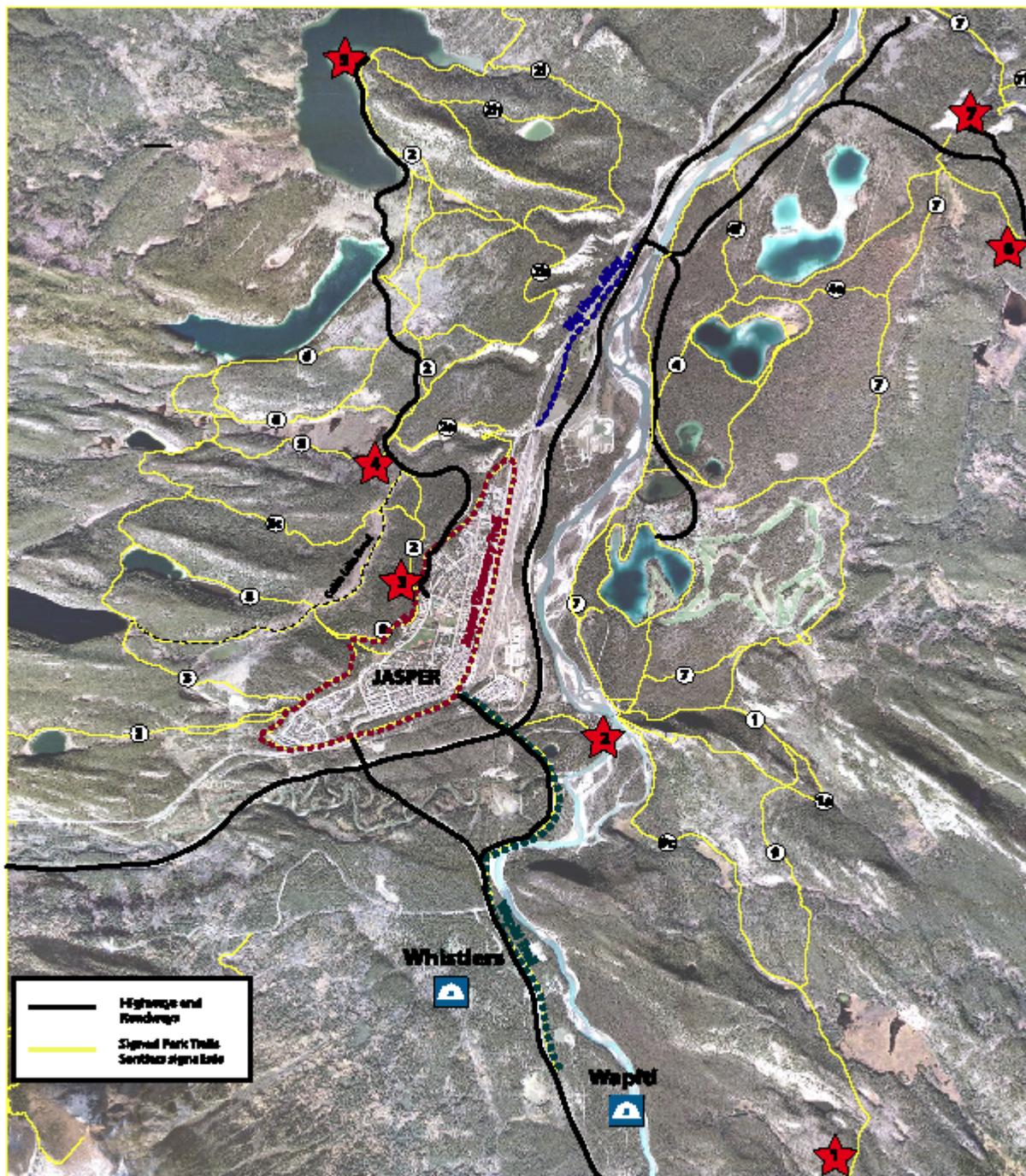
- 11) What were your first impressions of the information that you were provided?
 - Interesting?
 - Appear to be important/relevant?
- 12) What aspects of the research theory/findings are particularly useful for you?
- 13) What aspects of the research theory/findings appear to be less useful for you?
- 14) What is it about these aspects that make them less useful for you?
 - Too theoretical?
 - Difficult to fully understand?

- Not relevant to my current needs?
- 15) What barriers do you perceive in being able to “apply” these research findings in Jasper National Park (or any National Park)?
- Anything specific about the scale? Its items?
 - Anything related to model of “emotions”?
- 16) What benefits do you envision this research being able to bring to the management efforts in Canada’s National Parks (e.g., Jasper)?

I would like to now finish up the interview by asking you a few questions related to the relationship between researchers (i.e., academics) and practitioners (i.e., yourself).

- 17) What is your perception of the working relationship between academics and practitioners working in the areas of outdoor recreation management/conflict?
- Work well together?
 - Communicate well?
 - Understand each other’s needs?
 - Gap between researchers and practitioners?
- 18) What types of research would you like to see researchers conducting (i.e., types of information that would be most beneficial to you)?
- 19) How is current and new research/information communicated between researchers and practitioners?
- Is this method effective?
 - Appropriate?
 - What changes could/should be made to improve communication?
- 20) What additional barriers do you see that may be impeding the working relationship between academics and practitioners?
- Type and kind of research?
- 21) Do you have any additional comments or questions?

APPENDIX F



★ Potential Survey Locations with User Trends

1. Valley of the Five Lakes- Hiking: high visitor use. Biking: local use
2. Old Fort Point- Hiking: high visitor use. No biking allowed along cliff of Trail 9c. Commercial horse in Trail 7/4 areas.
3. Church Hill- Hiking/Running/Dog-walking: high local use. Some visitor use.
4. Cottonwood Slough- Hiking: moderate local/visitor use, guided hiking. Biking: local use. Commercial/private horse.
5. Pyramid Lake- Hiking: moderate local/visitor use. Biking. Commercial/private horse.
6. Maligne Canyon- Hiking: high visitor use. Biking in some areas. No horse/bike on Trail 7 along canyon.
7. Fifth Bridge- Hiking: high visitor use. Biking. Some private horse.