An Analysis of Factors that Lead to Commitment to Parks and Protected Areas

by

P. Dylan Flannery

A thesis

presented to the University of Waterloo

in fulfilment of the

thesis requirement for the degree of

Master of Arts

in

Recreation and Leisure Studies

Waterloo, Ontario, Canada, 2014

Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

The purpose of this study was to understand elements of park visitors' commitment to parks and protected areas with focus on psychological commitment to several Alberta provincial parks. The study sought to examine both single and combined effects of age, gender, and socio-economic status (SES) on psychological commitment. Several linear regression models were used for this analysis. Some of the more notable findings included: women control the decision to visit a park significantly more than men do; older adults were significantly more committed than younger adults; high SES visitors were significantly more committed than low SES visitors; and finally, the age by commitment association was moderated by economic motivations in that the high economically motivated visitors were significantly more committed at a younger age.

Acknowledgements

There are several people I would like to extend gratitude to for their unrelenting involvement and support during this extensive process. I would not have been able to complete this thesis without all of you.

First of all, I would like to thank my co-advisors, Dr. Paul Eagles and Dr. Steven Mock, for their continued encouragement and assistance. Both were supportive of my research interests and were more than helpful in directing me throughout the thesis writing process. Your efforts were not unnoticed and for that I am extremely thankful.

Second, I would like to thank Dr. Chris Lemieux for providing me the opportunity to work with his previously collected data set as well as Alberta Parks for their role in supporting Dr. Lemieux during the original data collection process.

Additionally, I wish to thank my other committee members, Dr. Mark Havitz and Dr. Ron McCarville, for their guidance and insight.

And lastly, I would like to thank the park users who participated in the 'Healthy Outside – Healthy Inside' survey as their contributions made this thesis possible.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1.0 INTRODUCTION

Parks and protected areas serve as habitats for numerous flora and fauna, protect and connect diverse ecosystems, support biological diversity, and act as outdoor recreational landscapes for active forms of education through citizen engagement with nature (Canadian Parks and Wilderness Society [CPAWS], 2012). Providing access to parks and protected areas and their inherent extraordinary natural environments can have significant influences on the well-being of Canadians. The Office of the Environmental Commissioner of Ontario (ECO) (2007) report to the legislative assembly of Ontario claimed that Canadians enjoy an increased economic, environmental, and social well-being when sound management of Ontario's natural resources is employed and ecological integrity is upheld.

Canada's parks and protected areas are increasingly earning international recognition for their natural beauty and potential for quality recreational experiences (Dearden & Rollins, 2009). The World Conservation Union (1994) defines a protected area as, "an area of land and/or sea especially dedicated to the protection of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means" (as cited in: Gurung, 2010). The Canadian natural environment is home to approximately 25% of the entire world's wetlands, 20% of the world's remaining intact forests, and 9% of the world's renewable freshwater supply (CPAWS, 2012), as well as 9 UNESCO World Heritage Sites (Wistowsky, 2008). And yet some Canadians appear to be missing out on this experience; a nature deficit which appears to be getting worse (The Praxis Group, 2008). Nature deficit disorder, a term coined by Louv (2008), refers to a hypothesis that people, and particularly children, are not spending enough time outdoors and in a natural setting resulting in a range of problems.

Canada's parks and protected areas play a fundamental role in sustaining and conserving the universally significant natural resources as well as in providing beneficial outdoor recreational spaces (Hawthorn, Kirik, & Eagles, 2002). Effective management of the Canadian parks and park systems is vital not only for the benefits to well-being but also to ensure future generations are provided similar recreational opportunities to those enjoyed by Canadians for generations (ECO, 2007). Management effectiveness is, however, dependent on significant and adequate levels of financing (Eagles, 2014). Yet, Canadian park and protected area management capabilities are continually being challenged by dramatic increases to human populations outside parks, reductions in staff numbers, an increasing area to manage, decreases in financial support from all levels of government, and the more recent issue; declining visitor numbers in some locales (ECO, 2007; Gurung, 2010; Eagles, 2014; Parks Canada, 2012b).

Research on the concept of commitment in service contexts by Pritchard, Havitz, and Howard (1999) found resistance to change to be the principal element of commitment. As the concern grows over the large number of Canadians changing their attitudinal preference as well as clearly their behavioural preference with respect to parks, why are Canadians not resisting change and maintaining visit levels to parks? Why are Canadians not acting (behaviourally) committed by visiting parks and protected areas? Eagles, McCool and Haynes (2002) stated that the decreasing financial base in Canadian park systems will lead to reductions in service provision and quality. Hawthorn, Kirik, and Eagles (2002) establish that many parks in Canada will, without additional tourist-based income, consequently become non-operating parks. Non-operating parks, often referred to as 'paper parks', have no gates or gate staff and often lack any method of calculating their visitor numbers (Alberta Tourism, Parks and Recreation, 2006; Eagles, 2014).

Canadian park agencies must consider all options. Ontario Parks closed of 10 of its operating parks in 2012 (CBC News, October 1, 2012) demonstrating its inability to gain access to the necessary resources to effectively continue to manage and operate the tourism elements of the current level of operating parks (Eagles, 2014). Other Canadian park agencies such as Parks Canada, whose 2012 budget suffered a $30 million government cutback (CPAWS, 2012), and Alberta Parks, whose campers feel strongly its user-fees are too high (Alberta Tourism, Parks and Recreation, 2011), are also increasingly becoming more dependent on tourism-generated income, yet at the same time are suffering from declining visitor numbers and subsequently, tourism-generated income (The Praxis Group, 2008; Alberta Tourism, Parks and Recreation, 2006). Canadian park agencies are therefore in need of significant alterations to their marketing and visitor management methods and approaches to increase visitor numbers and the associated tourism-generated income (Eagles, 2014). The future of Canada's parks, protected areas, nature reserves, nature conservatories, and overall natural environment are all at some risk.

1.1 **Study Purpose**

The purpose of this quantitative statistical secondary data analysis is to understand elements of park visitors' commitment to parks and protected areas. Secondary data provides the opportunity for a more extensive analysis of an existing data set than may have been originally employed, as well as the potential for offering additional or even opposing conclusions (Dale, Arber, & Procter, 1988). This research seeks to assist Canadian park agencies, specifically Alberta Parks, in determining factors (either particular demographic attributes, or motivations for travel) that may lead to higher park psychological commitment levels and thus, a higher likelihood of displaying behavioural loyalty by visiting a park. Psychological commitment is representative of a person's attitude toward an activity, service or stand (Pritchard et al., 1999),

whereas behavioural loyalty is an outcome of commitment reflecting both people's attitudes and behaviours towards an activity, service or stand (Backman, & Crompton, 1991).

As decreasing visitor numbers add to park budget constraints, this research may provide park agencies and managers with valuable information that encourages the design of programs that are better suited to meet market demands in hopes of increasing behavioural loyalty levels to parks and protected areas. Having a profound understanding of desired benefits (in this case measured through motivations of travel), a park agency "can reduce its vulnerability to the factors that threaten park agencies and national parks themselves" (Moyle et al., 2014, para. 14). As a result of this study, park agencies may have a fuller understanding of what benefits visitors hope to accrue and therefore be more proficient at communicating and projecting these benefits as to position themselves in "a distinctive and valued place in the minds of the general public and elected officials" (Crompton, 1993: as cited in Moyle et al., para. 13). Since different target markets may require varied marketing tactics to entice commitment and visitation, park agencies may, as a result of this research, also be more capable of developing effective strategies that motivate Canadians to visit parks and protected areas. As Lemieux et al., (2012) suggests, focusing on experience data, as is the case for this secondary data analysis, increases the likelihood management decisions are not made ad hoc and decisions can be made that best meet visitor demands. This research intends to answer the Canadian Parks and Wilderness Society's (2012) call for "a more solid, social science-based understanding of how to effectively connect Canadians to nature… to guide and direct the future management of visitor activities in our national parks" (p. 10).

1.2 **Research Questions**

To meet this call for research, several research questions guided this study:

1) Are younger-aged park visitors more committed (attitudinally and behaviourally) to parks and protected areas than older-aged visitors?
2) Are male park visitors more committed (attitudinally and behaviourally) to parks and protected areas than female visitors?
3) Are higher socio-economic status park visitors more committed (attitudinally and behaviourally) to parks and protected areas than lower socio-economic status visitors?
4) Do the travel motivations of park visitors act to moderate the relationship between demographic factors (age, gender, SES) and low commitment (or its antecedent processes - resistance to change, informational complexity, position involvement, and volitional choice) to parks and protected areas?

1.3 **Operationalization**

This study defined a park's financial structure as: the financial rules concerning park agency earning and expenditure practices, the combined sources of financial revenues that together fund a government agency's budget, the pricing policy, and the roles of government agencies, employees, and supporting non-government organizations that together act to operate and fund a park system. Tourism-generated revenue is defined as: park income generated by users of the park and its services. For this research the working definition for the concept of commitment was similar to Pritchard et al. (1999) who specify "information, identification, and volition as antecedent processes of commitment that facilitate its root tendency, resistance to change" (p. 335). Ecological integrity with respect to parks was for the purposes of this research defined according to the *Canada National Parks Act* as "...a condition that is determined to be characteristic of its natural region and likely to persist, including abiotic components and the composition and abundance of native species and biological communities, rates of change and

supporting processes" (Parks Canada, 2013b, n.p.). Health was defined according to the *Ottawa Charter* as: "a resource for everyday living, which allows us to manage, cope with and even change our environments" (Epp, 1986). The working definition for well-being was adopted from the Canadian Index of Well-being [CIW] (2012); it was selected for this research due to its inclusivity regarding well-being contributory factors, one of which is parks and protected areas, as well as its role in researching and understanding the concept as valued by the Canadian Federal government:

> The presence of the highest possible quality of life in its full breadth of expression, focused on but not necessarily exclusive to: good living standards, robust health, a sustainable environment, vital communities, an educated populace, balanced time use, high levels of democratic participation, and access to and participation in leisure and culture. (n.p.)

1.4 **Overview**

This thesis contains five chapters: Introduction, Literature Review, Methods, Results, and Discussion. The Introduction chapter is meant to familiarize readers on the general state of parks in Canada and the various challenges to managing these complex systems. The second chapter, Literature Review, first provides background information on overall park trends, offers a discussion of park visitors and their economic impact, examines the differing use patterns by age, gender, and socio-economic status, and assesses why some Canadians visit parks and protected areas and others do not. The Literature Review then outlines the concept of 'commitment' and its potential link to improving visitor numbers and commitment, and concludes with a discussion of the potential significance of this research with a recap of the guiding questions. 'Chapter 3', Methods, begins with a description of the previously conducted data collecting locations and

methods that act as secondary data for the purposes of this research. Dialogue then follows on how variables were originally measured and constructed for this analysis, with the secondary data analysis concluding the chapter. The fourth chapter, Results, begins with descriptive statistics before moving to linear regression findings. The concluding chapter, Discussion, contains a dialogue concerning some interesting findings as well as on results related to the research questions, and closes with recommendations and final remarks.

2.0 LITERATURE REVIEW

This chapter has a total of six sections and several subsections. First, park and protected area management challenges are examined at the national and provincial levels. The second section looks at park tourists by describing visitor numbers at the federal and provincial levels, their national economic impact, and focus then moves to visitation differences according to age, gender, and socio-economic status. The third section of this chapter reviews literature that identifies why Canadians tend to visit parks and protected areas. Its three parts include: health and well-being motivations, youth benefits, and common activities engaged in while visiting a park or protected area. The fourth section entitled 'Commitment' first describes the concept before discussing the adopted psychological commitment instrument followed by an examination of previous findings pertaining to the value Canadians place on parks and environment. The 'Significance' section then discusses the importance of this research and the potential link between park commitment and park loyalty. The chapter closes with a brief summary before re-iterating this study's guiding questions

2.1 **Park and Protected Area Management Challenges**

This section provides an overview of some of the dominating challenges in parks and protected area development and management at the national and provincial levels. Focus is on the growing number of protected areas, an increasing size of area being protected, and a decreasing management capacity.

2.1.1 **Nationally**

The larger area to manage is a trend that is also being found here in Canada. The Canadian federal government has increased Parks Canada's total land area by more than 25,264 square kilometres over the last several years in addition to taking actions that will soon add

another 70,564 square kilometres (Parks Canada, 2012b). Of Canada's entire land base, approximately 9.6% or 97.5 million hectares is either provincially or nationally protected exceeding 5,900 combined terrestrial protected areas (CCEA, 2012).

The Parks Canada system manages 42 national parks and 167 national historic sites, yet collects user fees at only 125 of the locations (CBC, January 15, 2012). Conversely, even with an elaborate and complex park system and one that has been increasing in size for several years, Parks Canada's 2012 budget was cut about 5% in 2012, losing approximately $30 million (CPAWS, 2012). Parks Canada has now claimed to be moving into a different phase of monitoring and ecosystem restoration, a phase that seemingly may present substantial challenges to managing effectively (McIlroy, 2012). This claim combined with a decreasing financial base may have led to Parks Canada recently announcing the termination of more than 600 jobs with roughly another 1000 employees losing either benefits or full-time employment status (Nonato & Quan, 2012). The ability to uphold ecological integrity will be further tested as between 25% and 30% of the 150 ecosystem science positions were lost (CPAWS, 2012).

Extensive budget cuts combined with a decreasing scientific capacity together appear to be putting the health of Canada's park systems at risk. The cuts also potentially hurt local communities that rely on seasonal work and indirect economic benefits from parks in addition to all Canadians in general as shorter visitor seasons and service reductions are limiting opportunities for some people to experience nature (CPAWS, 2012).

The existing management and financial structure in Canada has caused park managers in the past to focus on pleasing the upper level bureaucrats and politicians that make various budget decisions (Eagles, 2001; Eagles, 2014). The gradual shift to budgets that are increasingly dependent on tourism fees and high visitor numbers will challenge managers to alter their

approach and instead commit their efforts to the needs of park visitors who will in some cases become the sole income providers to the park agency (Gurung, 2010; Eagles, 2014).

2.1.2 **Provincially**

The Alberta Parks provincial park and protected area system has also grown immensely in size since being founded in 1930 (Alberta Tourism, Parks and Recreation, 2013) and also has limited financial resources (Alberta Tourism, Parks and Recreation, 2006; Roy Finzel, personal communication, November 28, 2013). The provincial government of 1995 enacted a strategic initiative known as 'Special Places' outlining Alberta's commitment to expanding its parks and protected areas system (Alberta Tourism, Parks and Recreation, 2013). By July of 2001, the initiative was responsible for the expansion of 13 different protected area sites, the establishment of 81 additional protected areas, and more than 200 thousand additional hectares of protected land (Alberta Tourism, Parks and Recreation, 2013). Growth of the parks system has since continued as another provincial park was added in 2005, two more in 2007, and two more in 2008 (Alberta Tourism, Parks and Recreation, 2013).

The current system's more than 2.76 million hectares of land and 478 parks and protected areas are spread across Alberta's 6 natural regions and 21 sub-regions as to best capture the diversity the province's natural environment offers (Alberta Tourism, Parks and Recreation, 2013). The six natural regions are: Canadian Shield, foothills, parkland, rocky mountain, grassland, and boreal forest (Alberta Tourism, Parks and Recreation, 2013). The provincial system designates each of its protected areas under one of eight 'classes' depending on its purpose, key objectives, and intended visitor experience. There is nearly 220,000 hectares of protected land spread over 75 provincial parks; over 100,000 hectares in 3 wilderness areas; more than 1.7 million hectares distributed amongst the 32 wildland provincial parks; roughly

85,000 hectares for the 209 provincial recreation areas; just under 27,000 hectares for the 15 ecological reserves, more than 130,000 hectares in the 141 natural areas; about 12,000 hectares in the 2 heritage grasslands; and finally, Wilmore Wilderness park, its own classification, contains nearly 460,000 hectares (Alberta Tourism, Parks and Recreation, 2013).

2.2 **Park Visitors**

This section focuses on park visitors and contains three subsections. The first looks at visitor numbers and trends at both the national and provincial levels. Next, the economic contributions of park and protected area tourism are discussed, and the section concludes with an examination of the demographically determined variances in park visitation for age, gender, and socio-economic status.

2.2.1 **Visitor Numbers**

Total visitor numbers to parks and protected areas are often difficult to estimate as many exist as non-operating parks employing no on-site staff and therefore no visitor monitoring capabilities (Eagles, McLean, & Stabler, 2000; Eagles, 2014). However, a conservative 1996 estimate suggests that both Canada and the United States combine for over 2.6 billion visitor days among the various national, provincial, and state non-urban parks (Eagles, McLean, & Stabler, 2000). The same study, however, also estimated that the per person visitation level for Americans compared with Canadians is 2.4 times higher in the US.

On a national level, Parks Canada (2012a) reported Canada's National Parks, Marine Conservation Areas, and Park Reserves to have had over 12.5 million visits collectively during 2011 and 2012. Although numbers may appear high, some suggest that Canadians are currently suffering from a nature deficit implying that many citizens lack a sufficient level of exposure to the natural environment (CPAWS, 2012). The nature deficit also appears to be getting worse as

visitor numbers appear to be steadily declining in some locales including the province of Alberta (The Praxis Group, 2008).

Alberta Tourism, Parks and Recreation (2013) report's having approximately 8.5 million visits each year; 1.5 million of which stay over at least one night and the remaining 7 million being day-use visitors. This is, however, an underestimate as limited funding and resources have resulted in a lack of data collection across the provincial system (Roy Finzel, personal communication, November 28, 2013). Despite the fact that these statistics are to be collected and published on an annual basis, the last annual parks visitation report in Alberta was produced in 2005. The report also must be considered incomplete as many parks and protected areas are not practically or financially able to collect visitor numbers (Alberta Tourism, Parks and Recreation, 2006).

That being said, the 2005 visitation report was able to determine that parks and protected areas in Alberta are also seeing a decline in visitor numbers. Between 1996/97 and 2005/06 visitation to the system as a whole dropped an average of 0.5% decreasing from 3,323,923 visiting groups or parties with 8,952,748 total visitors to 3,017,763 parties with 8,485,701 total visitors.

The 2008 Survey of Albertans' Priorities for Provincial Parks Report found that more than 40% of respondents reported visiting a provincial park (in Alberta) at least once in the past 3 years; though 20% of park users also reported decreasing their park use over the previous 5 years (The Praxis Group, 2008). Of those reporting not having visited a provincial park within the previous 3 years, only 8% claimed this was due to a lack of opportunity citing travel distance, cost, access, or crowdedness specifically (The Praxis Group). More importantly, 30% of infrequent users claimed to lack interest in the outdoors or parks and protected areas, with

another 40% citing their minimal use being a result of them using supplementary parks and recreational spaces (The Praxis Group).

Visitor numbers to parks and protected areas on a global scale, according to Bamford et al. (2009), appear to be on the rise in the majority of nations. The 2009 research looked at 280 different protected areas spread across 20 countries finding that 75% of the countries in the study had seen visitor number increases to their protected areas. After correcting for population variances, the study determined that declining visitor numbers were found only in first world nations (Bamford et al.). Reversing the declining visitor number trends for Canadian park agencies is essential to sufficiently fund effective management and may require updating operational, structural, marketing and management strategies to increase the number of international and domestic visitors (Gurung, 2010).

2.2.2 **The Economic Impact**

Parks have a unique ability to not only minimize damage from floods and erosion, regulate climates, purify water, and produce oxygen; but they can also generate significant financial returns (CPAWS, 2012). Recent studies indicate that visitation to Canada's parks and protected areas also hold high economic value (Wistowsky, 2008; CPC, 2010; Gurung, 2012; CPAWS, 2012). Although parks are for the most part in existence for reasons other than resource extraction, the raw materials found within Canada's parks and protected areas themselves can be of high economic value. For example, Kulthreshtha, Lac, Johnston, and Kinar (2000) estimated that Canada's national park system contains roughly $75 billion worth of carbon alone. In addition, Canada's combined natural resource wealth is estimated to be in excess of one trillion dollars (CIW, 2012).

In 2010, The Canadian Parks Council, made up of Canadian protected area Ministers, conducted an economic impact study. The study determined that Canada's Gross Domestic Product rose $4.6 billion due to the 43 million visitor days spread across Canada's federal, territorial, and provincial parks and protected areas (CPC, 2011; CPAWS, 2012).

A year prior in 2009, Canada's 14 park agencies spent a combined $800 million supporting more than 64,000 full-time equivalent jobs and earning government coffers returns of more than $300 million in tax revenues, approximately 49% of which was earned at the provincial and territorial levels (CPC, 2011). This expenditure, totalling roughly $5.2 billion in combined direct spending by both visitors and Canadian park agencies, was also determined to have contributed $4.6 billion towards Canada's GDP (CPC, 2011). Park Canada visitors spent about $2.46 billion while provincial and territorial park visitors spent roughly $1.95 billion; this more than $4.4 billion in visitor spending is more than 5 times (5.7) than all park agency expenditures ($.8 billion) (CPC, 2011).

The trend at the provincial level in Alberta is certainly similar with 2008/09 visitors to Alberta Parks spending $317 million and provincial park agencies spending much less at approximately $96.7 million (CPC, 2011). This resulted in a more than $300 million dollar contribution to Alberta's GDP, supported more than 3700 jobs within the province, and earned Alberta more than $24 million in tax revenue (CPC, 2011). Furthermore, visitor spending has significantly greater impacts on the economy and GDP than does government or park agency spending; in 2009 visitor spending contributed over three times more to Canada's GDP than did park agency spending (CPC, 2011).

Due to the losses in government-based tax support (ECO, 2011), park agencies have had to improve their creativity to increase visitor and tourism-related spending with the intent of

supplementing the tax-based losses. The spending on park programs, facilities, and related services by both park visitors and government park agencies can have lasting impacts on Canada's economy, generate significant income for locals and local businesses, support environmental conservation, create jobs, and generate government tax-revenue (CPC, 2011). Tourism-generated revenues from visitation to parks and protected areas evidently has the potential to produce significant economic contributions for the Canadian economy and local municipalities, as well as sufficient funding for the preservation of Canada's natural environment and effective management of its parks and protected area systems (Eagles, 2004; Drumm, 2007; Eagles, 2014).

2.2.3 **Demographic Visitation Differences**

Early research on demographically determined differences in outdoor recreation concentrated on single effects rather than the combined effects of holding multiple status positions. These single effects studies have shown that four demographic characteristics; race and ethnicity, age, gender, and socio-economic status, appear to have notable differences in their outdoor recreation participation. Findings point to several marginalized groups concerning outdoor recreation: individuals of racial and ethnic minority groups, older adults, females, and those of low socio-economic status (Floyd, 1999; Lucas, 1990; Scott & Jackson, 1996; Scott & Munson, 1994). Many of the previously determined variations in park visitation or outdoor recreation participation according to various demographic characteristics, however, are in a sense limited findings as they merely assess forms of behavioural loyalty. This study, which made use of an existing data set that did not assess race or ethnicity, sought to assess psychological commitment measures to establish what characteristics lead to a higher likelihood of being committed to parks and protected areas attitudinally and then consequently behaviourally. As

race and ethnicity data was not available for this study, it was excluded from the literature review.

2.2.3.1 **Age**

Studies assessing the relation between age and leisure behaviour have predominantly determined this association to negative in that with greater age comes a decrease in leisure participation. The effects of ageism, as Lawton (1985) contended, often result in older adults transitioning away from various forms of active leisure and towards more passive types. This notion is also supported by Gordon, Gaitz, and Scott (1976) who claim that roughly 80% of individuals in the early stage of adulthood report active leisure lifestyles with this number dropping considerably for those in the final stage of the lifespan to about 20%.

Other research focusing on evaluating this relationship in an outdoor recreational setting have also found this association to be negative (Kelly, 1980) with a diminishing number of adults requesting leisure engagement outside of the home with each stage of progression through the lifespan (Iso-Ahola, Jackson, & Dunn, 1994). Several studies have revealed that infrequent users of public parks tend to be older in age citing particular constraints to participation such as: lack of companionship, poor health, and safety issues (Scott & Munson, 1994; Scott & Jackson, 1996). In the Alberta provincial park system visits appear to decline steadily with age predominantly after the age of 75 (The Praxis Group, 2008). More than 40% of those aged 64 or younger reported visiting or using provincial parks in Alberta; the reported use falls to 37% for individuals aged 65-75 and drops drastically for people over 75 to only 20% (The Praxis Group, 2008).

A study assessing urban park usage similarly found that younger age groups were more likely to visit urban parks than older age groups suggesting that this trend may be occurring in

both urban and non-urban parks (Cohen et al., 2007). In view of past research, older adults appear to visit parks and protected areas less than younger adults, a notion that was explored further in this study.

2.2.3.2 **Gender**

Early research on differences in outdoor recreation participation for men and women have pointed to what appears to be a gender gap (Manning, 1999). While women have been found to be just as likely as men to engage in commonly frequented outdoor recreation activities for their gender, they are less likely to engage in gender typed activities, and moreover, they are less likely to engage in recreation activities in general than men (Manning, 1999).

An American study looking at urban park usage found that those who frequented urban parks tended to be male rather than female (Cohen et al., 2007). Men were found to dominate use in areas designed for competitive team sports, and female visitors were more likely to engage in sedentary behaviours such as supervising children. Other studies, such as Meeker (1991) or Shaw (1999), have suggested women participate less in outdoor recreation due to a fear of safety or perceived threat of violence; for example, women perceive a greater threat in forest environments than do men. Henderson and Bialeschki (1991) suggest that women may also lack a sense of entitlement as they prioritize differently than men, often viewing work or family of greater importance than their own leisure engagement. Gender then, appears to have an influence on outdoor recreation participation and park and protected area visitation warranting further investigation (Meeker, 1991; Henderson, & Bialeschki, 1991; Shaw, 1999; Manning. 1999; Cohen et al., 2007).

2.2.3.3 **Socio-Economic Status**

According to White (1975), socio-economic status, a combination of education and income, along with age hold the best predictive abilities regarding outdoor recreational participation. More recent research on nature-based tourists has found that, aside from being naturally attracted to parks and protected areas, these individuals tend to be generally highly educated, fairly well-off financially, and often willing to pay substantially higher than the average tourist for quality experiences (Eagles et al., 2002; Eagles, 2004; Alberta Tourism, Parks and Recreation, 2013). Similarly, visitors to Alberta Parks and protected areas also tend to be individuals with higher education and income levels (The Praxis Group, 2008; Lemieux et al, 2014).

Lee, Scott, and Floyd (2001) claimed socio-economic status (including level of income, occupational status, and educational attainment) to be an important determining factor for overall leisure behaviours. Low income, for example, can be a substantial constraint to costly recreation participation (Jackson, 1990). Scott and Munson (1994) also proclaimed it to be the primary predictor for perceived constraints to park visitation in urban settings, while Solop, Hagen, and Ostergen (2003) declared its impact on national park visitation to be the most notable. These findings may be due to what some researchers call "elitism" in national parks (Bultena, & Field, 1978). This notion, supported by Meeker (1991), argues that national parks are heavily underrepresented by the low income and minority groups, and that low socio-economic status individuals tend to visit parks less frequently. These findings suggest that any further investigation on elements of park visitors and park visitation should also then include the socio-economic status factor.

2.3 **Travel Motivations**

Canadians are motivated to travel to parks and protected areas for several different reasons often dependent on the benefits sought as a result of their visit. A 2014 study found that the perceived benefits or outcomes as a result of a park visit was comparable to the motivations for the visit in the first place (Lemieux et al.). As the focus of this study was on motivations, the following section examines some of the various reasons that people report visiting a park or protected area. Health and well-being motivations are first discussed; the second subsection describes several youth benefits; the third subsection describes some of the common activities park users report engaging in.

2.3.1 **Health and Well-being Motivations**

There is a growing body of literature pointing to the association between public health and well-being, and parks and protected areas (Godbey, Roy, Payne, & Orsega-Smith, 1998; Oregon State University [OSU], 2010; Godbey, & Mowen, 2010; Lee & Maheswaran, 2011; Bowler, Buyung-Ali, Knight, & Pullin, 2010; Lemieux et al., 2014). Although the potential health benefits of this association are repeatedly undetected or unacknowledged, a abundant amount of literature identifies a relationship with the natural environment, a key aspect found within parks and protected areas, and the potential for enhancing human health and well-being through access to nature (Maller et al., 2005; 2008). Parks and protected areas, in terms of health, have often been viewed as sites for leisure and recreation activities yet many argue that their existence fosters a healthier lifestyle and encourages improvement of psychological and spiritual well-being (Maller et al., 2008; Rosenberger, Bergerson, & Kline, 2009; Lemieux et al., 2014). Recent research on Alberta park users found psychological and emotional well-being to be the most important motivational factors (more than 89% of visitors ranking as important),

with social well-being (88.3%), physical well-being (80.3%), and environmental well-being (79.4%) also being noteworthy motivations (Lemieux et al., 2014). They can also reduce stress, enhance productivity and concentration, boost immunity, elevate self-confidence, improve problem solving capabilities, increase perceived quality of life, promote healing and a more holistic sense of wellness, and positively affect mental health regardless of classification or location (non-urban vs. urban) (Maller et al., 2008; Rosenberger et al., 2009; Lemieux et al., 2014).

Parks and protected areas can, for example, play a central role in facilitating physical activity for the general public. A 2010 study found that "some of the health issues that plague overweight and obese people can be aided by a stronger commitment to recreational opportunities" (OSU, 2010, p. 1). The study further explained the potential role a park and protected area can play regarding individual health stating that "it's not just about losing weight. It's been found that active obese individuals have lower morbidity and mortality than normal weight individuals who are sedentary" (OSU, p. 2). Another study determined that both passive park users and non-park users were more likely to rate their perception of individual general health as lower than park users, as well as report a higher body mass index (BMI), higher depression score, and higher systolic and diastolic blood pressure levels (Godbey, Roy, Payne, & Orsega-Smith, 1998).

As many people report a large portion of their exercise to be taking place within a park setting, parks become critical spaces for healthy physical activity engagement (Ho, Payne, Orsega-Smith, & Godbey, 2003; Maller et al., 2005; Cohen et al., 2007; Godbey, & Mowen, 2010; Lee, & Maheswaran, 2011; Bowler, Buyung-Ali, Knight, & Pullin, 2010). OSU (2010) indicates that even moderate activity engagement levels can significantly improve health and

longevity. Significant positive impacts are often found in regards to: self-esteem, diabetes and cancer, increased energy and cardiovascular health, and reduced levels of depression (OSU).

More recent studies analyzing Canadian park visitors' motivations for travel and perceived outcomes of their visit at non-urban parks found that visitors value benefits or increases to their health and well-being (Lemieux et al., 2012; Lemieux et al., 2014). The study's also revealed that visitors rate a park visit as a very positive life experience. Findings indicated that 72% of respondents perceived an improvement to their individual health and well-being due to a park visit, with only 0.6% perceiving a decline (Lemieux et al., 2012). Here, the most significant improvements perceived as a benefit resulting from their visit to a park or protected area were environmental, physical, social, and emotional and psychological health. These expected benefits of visiting a protected area were, in the 2012 study, found to be valuable contributions for respondents in their travel preferences and decisions to visit a park. Furthermore, respondents "agreed very strongly that government agencies should develop education, interpretation, and outreach messaging that communicate the health and well-being benefits of protected areas" (Lemieux et al., 2012, p. 80).

Tinsley, Tinsley, and Croskeys (2002) reported several top psychological benefits sought by older adults while visiting a park: a chance to be with other people, the opportunity to engage in activities that are not physically challenging, and immediate pleasure seeking. Lemieux et al., (2014) added that older adults are also highly motivated for economic, spiritual, and cultural well-being related reasons. Sasidharan (2001) claimed that two of the top three activities all park visitors reported engaging in were social activities and food-related activities, neither of which directly relate to physical engagement. In addition, many adults report visiting parks to escape from daily routines, relax, escape, and decrease stress levels by being with and observing nature

(Maller et al., 2008; Bamford et al., 2009; Thompson, & Aspinall, 2011). Hull and Michael (1995) found that the longer a participant stayed within a park setting, the lower was their reported stress level; when compared to being at home, and people reported feeling calmer and less anxious. This reported calming effect may also have significant impacts on overall health. Godbey, Roy, Payne, and Orsega-Smith's (1998) study revealed that, when controlling for demographic effects, park users report less physician visits than non-park users (for reasons other than regular check-ups).

The link between nature and health and well-being is progressively becoming clearer. Although research on this link is still relatively recent, and increasing amount of studies are pointing to a dependency humans have with nature pertaining to health and well-being. As Maller et al. (2008) suggests, "contrary to popular thinking, humans may be dependent on nature for psychological, emotional, and spiritual needs that are difficult to satisfy by other means" (p. 1). Parks have a unique ability, through their pristine natural environments and sophisticated management strategies, to house the resources necessary to fulfill these human needs and positively affect people's mental, physical, and overall health and well-being. Table 1 defines several types of well-being with a summary of the potential benefits and experiences from nature-based recreation.

Table 1. *Well-being Types, Definitions, and Benefits gained by Parks and Protected Areas*

Dimensions of Well-being	Broad Definition	Benefits/Experiences Provided by Nature and Parks
Physical Well-being	In general, physical well-being includes physical activity, nutrition, and self-care, and involves preventative and proactive actions that take care of one's physical body; encompasses maintenance of cardiovascular fitness, flexibility, and strength (Miller and Foster, 2010).	• To get exercise (Driver, 1993) • To keep physically fit (Driver, 1993) • To relax physically (Driver, 1993) • To rest physically (Driver, 1993)
Emotional/Psychological (or Mental) Well-being	Positive mental health is more than just the absence of illness; well-being is comprised of numerous components that allow individuals to	• Restoration from mental fatigue (Kaplan and Kaplan, 1989; Maller et al., 2008) • To experience tranquility and solitude (Driver,

	cope with stress, develop positive relationships, and flourish in life. Positive functioning includes feeling satisfied with life (Diener, 2000) and a subjective sense of emotional, psychological, and social well-being (Keyes, 2002).	1993) • Lower levels of anxiety and sadness (More and Payne, 1978). • The longer people stay at a park, the less stressed they report feeling (Hull and Michael, 1995).
Social Well-being	Social well-being encompasses the degree and quality of interactions with others, the community, and nature (Miller and Foster, 2010).	• Interacting with nature or participating in nature-based activities can promote a sense of community, foster a sense of belonging or sense of place, and enhance social and personal ties/relationships (Maller et al., 2008) • Natural environments foster social capital by providing settings for groups to meet formally and informally for recreational or leisure pursuits (Maller et al., 2008).
Intellectual Well-being	Intellectual well-being is the degree to which one engages in creative and stimulating activities, as well as the use of resources to expand knowledge and focus on the acquisition, development, application, and articulation of critical thinking (Miller and Foster, 2010).	• Parks provide learning experiences via interpretive opportunities and unique environments for personal study. • To discover and experience something new (Driver, 1983). • To gain a better appreciation and understanding of nature (Driver, 1983).
Spiritual Well-being	Overall, spiritual well-being seems to be purpose and meaning in life; the self in relation to others, the community, nature, the universe, and some higher power; shared community and experience; and the creation of personal powers and beliefs (Miller and Foster, 2010).	• Spiritual well-being is the process of seeking meaning and purpose in life (Adams et al.,1997) • It is also about the self in relation to others, the community, nature, the universe, and some higher power; shared community and experience; and the creation of personal powers and beliefs (Miller and Foster, 2010)
Ecological Well-being	• Ecological well-being refers to how effectively one deals with or manages environmental influences on one's life and one's own impact on the environment (WHO, 2005).	• Parks provide opportunities to engage in ecologically responsible behaviours • Observing native animals, having them nearby, or interacting with them improves quality of life (Tribe and Brown, 2000; Howard and Jones, 2000)
Cultural Well-being	Cultural well-being is the set of distinctive spiritual, material, intellectual, and emotional features of society: it encompasses, in addition to art and literature, lifestyles, ways of living together, values systems, traditions and beliefs (UNESCO Declaration on Cultural Diversity, 2001).	• Parks provide opportunities to learn about culture. • The intrinsic benefits and satisfactions to be gained from exposure to and involvement with culture. • The definition and assertion of Canada's national identity.
Environmental Well-being	Environmental well-being is a broad dimension that considers an individual's reciprocal interaction with the environment. Includes the balance between home and work life, as well as the individual's relationship with nature and community resources.	• Foster involvement in the natural environment (Maller et al., 2008). • Visiting parks provides financial and in-kind support that can assist conservation and improvement of the natural values of parks (Maller et al., 2008).
Occupational Well-being	Hettler (1980) and Anspaugh et al. (2004) defined occupational well-being as the level of satisfaction and enrichment gained by one's work and the extent one's occupation allows for the expression of values.	• Viewing nature improves performance in attention demanding tasks (Tennessen, & Cimprich, 1995) • Contact with nature reduces perceived job stress, improves job satisfaction, and reduce the incidence of reported illness and headaches of office workers (Kaplan and Kaplan, 1989; Maller et al., 2008).

Economic Well-being	Economic wellbeing is less about the right to basic resources, as in traditional social democratic welfare policy, and more about supporting individuals to achieve economic wellbeing for themselves by not being prevented by economic disadvantage (DFES, 2003).	• Nature attracts consumers and tourists to business districts, and is seen to increase appeal (Maller et al., 2008). • Parks and nature tourism generate income and employment in regional areas (Maller et al., 2008).
Financial Well-being	Financial well-being is a mind-set or perspective in relation to one's goals - and a piece of mind that all their plans are in line with their core values of what is important in their lives. Lack of financial well-being may cause social, physical and emotional stress (Bagwell, 2000)	• Ability to live within financial means. • Provide opportunity to use resources effectively for a lifetime of financial well-being. • Parks are an affordable recreation/leisure option.

Source: Lemieux et al. (2014)

2.3.2 **Youth Benefits**

Canadians are similarly visiting parks in hopes of directly benefitting their children (Lemieux et al., 2014). Over the last several years however, engaging with the natural environment for youth has seemingly become less important as their focus has been more on computer and video games, television, and time consuming school related work and extracurricular activities (National Environmental Education Foundation [NEEF], 2010). The result, some argue, is that many youth are losing out on the potential benefits to their health, well-being, and overall physical and cognitive development from visiting a park or protected area (NEEF).

Although there is marginal empirical evidence about the direct benefits to youth development from engaging with nature, Lemieux et al. (2012) and Lemieux et al. (2014) determined that parents, at a higher rate for females, perceived numerous benefits for their children. More than 80% of parents identified a perceived improvement to their child's levels of competence, physical development, social knowledge and competence, anxiety issues, cognitive development, and learning and language abilities as a result of visiting a park or protected area (2014).

Engaging with nature and parks and protected areas has been suggested by several studies to also potentially mitigate the effects of several common conditions present in many of today's youth. A 2001 study determined that youth with attention deficit disorder (ADD) benefitted from an improved attentional functioning ability after engaging with nature, adding that the child's symptoms were less severe with a more natural or green setting (Taylor, Kuo, & Sullivan, 2001). A different study focusing on the mitigating effects of nature engagement regarding symptoms of attention-deficit/hyperactivity disorder (ADHD) found that children who walked in a nature setting for 20 minutes per day were able to better concentrate then those who did not (Kuo & Taylor, 2004). The study also concluded that outdoor activity engagement, compared to any other setting, significantly reduced the symptoms of ADHD in children (Kuo & Taylor).

A more recent study in 2008 focusing on children with the eye condition myopia (short-sighted) claimed that less myopia as well as increased hyperopic (long-sighted) mean refraction or abilities were associated with high levels of time spent engaging with nature (Rose et al., 2008). Lovasi et al. (2008) focused on pediatric asthma finding that exposure to the natural environment had a protective effect against the condition. The study claimed that for children aged 4-5, lower incidences of early childhood asthma were positively associated with high tree density on their home street (Lovasi et al.).

Another study, emphasizing the growing concern for childhood stress as a result of a regularly high workload inherent in today's school-system and jam-packed schedules full of extracurricular activities, assessed the association between nature and childhood stress levels. Contact with the natural environment was determined to moderate the impact of stress on children in general, having the greatest influence on the most vulnerable, those considered high-stress (Wells & Evans, 2003). The findings also indicated that "children with a high degree of

exposure to nature seem to be protected from the impact of life stress…[and] children experiencing more nature were rated by their mothers as lower in symptoms of psychological distress" (Wells & Evans, p. 322-323). Wells and Evans also had participating children rate their own self-worth; again those who indicated engaging in more nature perceived higher levels of self-worth than those engaging in less nature.

In an American study funded by the National Institute of Diabetes and Digestive and Kidney Diseases, researchers focused on how children's weight or body mass index (BMI) was influenced by the level of greenness in urban neighbourhoods. Childhood obesity has been an issue of growing concern over the last several decades, especially in North America where a more sedentary lifestyle is prevalent. Childhood obesity has previously been linked to various health matters such as asthma, sleep apnea, type 2 diabetes, emotional distress, and hypertension (Science Daily, 2008). The 2008 study, although failing to include an income variable, pointed to a long-term effect; regardless of age, sex, or race, slower increases to BMI were associated with higher neighbourhood greenness and more specifically, "the greener the neighbourhood, the lower the risk of obesity" (Science Daily, p. 1).

Other studies have emphasized the potential benefits for children who engage in outdoor active play. A 2006 study by the Council on Sports Medicine and Fitness and Council on School Health suggested that providing children with the opportunity to engage in unstructured outdoor play is not only a fundamental method to get children physically active but furthermore, is crucial for sustainable weight loss. Children who regularly engage in forms of unstructured outdoor play will also often see substantial improvements to dexterity, and physical and emotional strength, as well as a further developed imagination, and overall healthier brain development (Ginsburg, 2007). Engaging freely with the natural environment can encourage

healthy social, physical, emotional, and cognitive youth development and act to enhance overall well-being (Ginsburg, 2007).

2.3.3 **Common Activities**

The large open landscapes found in many parks and protected areas allow for a diverse range of recreational activities and may also be a source of motivation to travel. Visitors are able to socialize with friends and family, engage with nature, or participate in specific physically engaging outdoor activities and sports (Cohen et al., 2007; Thompson, & Aspinall, 2011). In some cases, fairly commercialized pay-for-use activities such as golf, snowmobiling, and other motorized off-road travelling are permitted within parks and protected areas (CPAWS, 2012). Many of these types of activities, however, focus more on infrastructure rather than experiencing the natural environment.

Several studies have suggested that the majority of park visitors are engaged in physically active leisure pursuits during their park visit (Scott, 1997; Godbey, Roy, Payne, & Orsega-Smith, 1998; Tinsley, Tinsley, & Croskeys, 2002). One study suggests that roughly seven out of every 10 park users engage in at least moderate physical activity levels during their visit; however this study focused specifically on urban park visitors (Godbey, Roy, Payne, & Orsega-Smith, 1998).

According to Balmford et al. (2009), both outdoor recreation (nature appreciation) and wildlife viewing are increasingly gaining popularity and are globally two of the fastest growing tourism segments. Similarly, the Survey of Albertans' Priorities for Provincial Parks Report found that respondents, more than anything else, travelled to a park or protected area to be with friends and family, to be in a wilderness setting, to have the opportunity to appreciate nature, and to relax (The Praxis Group, 2008). A 2014 study found that Alberta Park users engaged in a wide variety of activities classified as sedate, educational, or active. The most common sedate

activity was resting and relaxing (88.4%), while the most common educational activity was photography (25.9%) with visiting natural features (25%) close behind; the most commonly reported active activity was hiking (64.2%) (Lemieux et al., 2014). Other popular activities Canadians enjoy participating in while visiting parks and protected areas are: swimming, spending time on the beach, fishing, camping, biking, walking, downhill and cross country skiing, snowshoeing, socializing, environmental education programs, canoeing and kayaking, ice skating, mountain climbing, and horseback riding (The Praxis Group; Thompson, & Aspinall, 2011; Parks Canada, 2013a; Lemieux et al., 2014).

Some activities are, however, only permitted in a limited number of Canadian parks such as: hunting, ice fishing, motorized off-road travelling, paragliding, snowmobiling, parachuting, and use of personal watercraft (Parks Canada, 2013a). Both the Canadian and Alberta park agencies employ classification systems where different 'classes' indicate different purposes. For example, in Alberta protected areas under the 'wilderness areas' classification focus on protecting and conserving natural heritage and provide remote wilderness landscapes for those looking for a quiet, non-consumptive nature-based experience (Alberta Tourism, Parks and Recreation, 2013). Consequently, these protected areas do not allow more consumptive activities such as hunting or fishing and instead focus on providing opportunities for wildlife viewing, backcountry hiking, and mountain climbing (Alberta Tourism, Parks and Recreation, 2013).

On the other hand, 'provincial recreation areas' focus on providing diverse front country recreational experiences combining outdoor recreation with tourism where activities such as water-skiing and motorized off-road travelling are commonly acceptable (Alberta Tourism, Parks and Recreation, 2013). Both are managed under a different primary objective, the former

being preserving natural heritage and the latter being outdoor recreation. To meet the varying objectives, some park classifications allow a wider range of activity types while others are much more limited (Alberta Tourism, Parks and Recreation, 2013). In addition, some parks are open only on a seasonal basis (Eagles, McLean, & Stabler, 2000).

2.4 **Commitment**

This section of the literature review begins with a brief look at the expansion of the concept of commitment. The second subsection elaborates on both commitment and loyalty with discussion on how to potentially increase both concepts; the third and final subsection points to previous findings regarding how committed Canadians are in relation to parks and protected areas.

2.4.1 **Understanding Commitment**

Early research on the construct of commitment proclaimed that people became committed when they perceived their decision was made of free choice (volition), it was known by others close to them (publicness), and that the decision was not easily reversed (revocability) (Salancik, 1977). The construct has since been expanded, as Crosby and Taylor (1983) suggest, by including a psychological aspect: the tendency of resistance to change. Crosby and Taylor offer this more inclusive definition of commitment:

> A tendency to resist change in preference in response to conflicting information or experience. Psychological commitment is maximized when (1) the individual is motivated by a need to maintain consistent relationships between preference and salient aspects of cognitive structure, and (2) important values and self-images are linked to the preference, leading to a state of position involvement. (p. 414)

2.4.2 **Measuring Commitment**

For the purposes of this research, commitment is considered as equivalent to the Pritchard et al. (1999) definition which "specifies information, identification, and volition as antecedent processes of commitment that facilitate its root tendency, resistance to change" (p. 335). The 1999 study's four-factor (resistance to change, informational complexity, position involvement, and volitional choice) measure of commitment is known as the psychological commitment instrument (PCI).

This instrument can be a useful marketing tool for categorizing groups or individuals that may be considered more committed or loyal to a product or service. The study's findings suggest that levels of commitment and loyalty are "determined by a complex causal structure in which their [participants] resistance to change is maximized by the extent to which they: 1) identify with important values and self-images associated with the preference; 2) are motivated to seek informational complexity and consistency in the cognitive schema behind their preference; and, 3) are able to freely initiate choices that are meaningful" (p. 344). Consequently, loyalty and commitment can be improved by "maximizing any or all of these antecedents" (p.344).

2.4.3 **Park and Protected Area Commitment**

Even with numbers that may seemingly be high at 9.6% or 97.5 million hectares of all Canadian landscape being protected (CCEA, 2012), the Panel on the Ecological Integrity of Canada's National Parks (2000) report found that 40% of Canadians were generally disappointed with the shortage of parks (as cited in Wistowsky, 2008). The Survey of Albertans' Priorities for Provincial Parks Report found that Albertans feel that protecting more land by setting it aside and leaving it undisturbed should be the top priority for the ministry of Alberta Tourism, Parks

and Recreation (The Praxis Group, 2008). In excess of 70% of respondents wanted the Alberta government to invest in this initiative, with almost 66% also calling for additional investments in the enforcement of rules and regulations, and 59.9% claiming the same is needed for natural resource management (The Praxis Group). These numbers appear to point to a desire for more nature-based recreational opportunities in areas that are competently managed; an aspiration that is increasingly difficult for park agencies to meet as they continually suffer from financial challenges (Alberta Tourism, Parks and Recreation, 2006; Roy Finzel, personal communication, November 28, 2013).

Wistowsky (2008) found that Canadians value their parks and protected areas so much so that over 60% would be willing to contribute to a national park fund, regardless of their intentions to visit a park in the future, to ensure national parks continue to exist. Wistowsky (2008) argued that the willingness to pay for the continued existence of parks in Canada is, for a one-time payment, an average contribution of between $53.32 to $69.65 per household adding up to somewhere between $373.6 million and $488 million. If contributions were annual the amount per household drops, as may be anticipated however, yet still adds up to a potential range of between $176,349,547 to $230,359,077 per year (Wistowsky, 2008); a range, for example, that could fund the Ontario Parks 2010 operating budget three times over (Eagles, 2014).

2.5 **Significance**

McDougall et al. (2004) argued that marketing and management strategies for parks in Canada and globally are commonly developed in a more effective manner when a high degree of understanding of market demands exists at the planning and policy level (as cited in Gurung, 2010). Inadequate data collection and monitoring techniques, as are currently being employed by Alberta Parks (Alberta Tourism, Parks and Recreation, 2006), are further degraded by

insufficient funding levels and provide inaccurate findings for decision-makers (Gurung, 2010). Efficient data collection, data analysis, and monitoring are critical for management, policy, planning and marketing strategies to be effective (Eagles et al., 2002).

Canadian park managers face managing extremely complex issues now and in future years: being responsible for a larger area, operating with fewer resources both human and financial, an increasing population outside parks, declining technical expertise, dealing with climate change impacts, and taking an increasingly visitor-oriented approach to management to attract more visitors (ECO, 2007; Gurung, 2010; Eagles, 2014; CBC News, January 15, 2012; Parks Canada, 2012b). Gurung (2010) argued that park and tourism managers that take a more visitor oriented approach by focusing on monitoring and evaluating visitor motivations and satisfaction levels can positively improve the value and regard communities have for parks and protected areas. This increased level of value is interpreted in this research to also mean a higher likelihood of psychological commitment and behavioural loyalty; substantial park commitment levels can potentially increase visitor numbers to levels that successfully fund effective and comprehensive park management.

Due to the need to generate revenue by gaining and maintaining public support, park visitation and therefore park commitment and behavioural loyalty become fundamental elements to the survival of Canadian parks and protected areas. Canadian park managers need to consider variables that can effectively increase park commitment and loyalty levels potentially improving park visitation levels, return rates, length of stay, and overall visitor satisfaction (Eagles, 2001; Iwasaki, & Havitz, 2004). Eagles (2004) reported that better targeted and more efficient services and strategies results in increases to visitor use effectively increasing the opportunity to generate substantial levels of revenue. According to Drumm (2007), visitors to parks and protected areas

have “enormous potential to be a significant source of conservation finance for financially challenged protected area systems” (p. 207).

Canadian parks are more often than not managed on a reactive, rather than proactive, basis with efforts being directed only after a problem has been perceived (Eagles, 2001). Previous literature appears to indicate that little research has been done, both academically and professionally, on past visitors who did not return, potential visitors, or wants and satisfaction levels of actual visitors (Eagles, 2001; Lemieux et al., 2012). In addition, much of the previous literature discussed earlier relating to demographic usage differences and visitor motivations focused on parks in urban and suburban settings; research in these areas is scarce for non-urban parks and protected areas. Consequently, this research may be considered a contribution to park management literature; focusing on experience data, as was the case for this study, increases the likelihood management decisions are not made ad hoc and decisions can be made that best meet visitor demands (Lemieux et al., 2012).

The level of existing marketing and management capacities for many Canadian park agencies appears to be minimal at best (Gurung, 2010; Eagles, 2014). Ontario Parks, for example, does such a poor job at brand marketing Algonquin Park, its largest and most well-known provincial park, that the Parks Canada National Public Opinion Survey (2005) showed that 9% of respondents cited it as their most recently visited national park (as cited in Wistowsky, 2008).

Canadian park agencies, suffering from loses to management capacity (Nonato, & Quan, 2012), are entering a time when new strategies are needed. Parks Canada, for example, has suggested that many Canadians are living more urbanized lifestyles and are therefore less interested in the more traditional park activities (CPAWS, 2012). Developing new marketing

directions, strategies, and goals to better attract visitors is of such importance for Canadian park agencies that Parks Canada, with its extensive budget reductions, recently invested $395,000 over two years in the Toronto-based marketing firm *Veritas* in hopes of increasing awareness of and visitation to Canada's parks and protected areas (CBC News, January 15, 2012). The park agency hopes to see an increase in number of visits to both its parks and historic sites of 10% by the year 2015 as a result of the investment (CBC News, January 15).

Exposing Canadians to nature, as is the case when visiting a park or protected area, can deliver a "plethora of social, economic, and environmental benefits… which extend well beyond the visitor, well beyond park boundaries, and into society much more broadly" (Moyle, Weiler, & Moore, 2014, para. 11). With a limited marketing and management capacity (Nonato, & Quan, 2012), this secondary data analysis attempts to assist Canadian park agencies and managers in developing commitment profiles to allow for differentiated target marketing as well as vital information that encourages the design of programs that are better suited to meet market demands and boost commitment and visitation. Those with higher psychological commitment and behavioural loyalty levels to parks and protected areas may demand different marketing strategies and programs than those who display lower levels (Pritchard et al., 1999). In addition, examining individuals displaying lower levels can provide insight as to what travel motivations drive the successful negotiation of various constraints to participation and park visitation. As the 1999 study suggests, "Marketers armed with such information may simply choose to devote fewer institutional resources to those less committed target markets" (p. 344).

2.6 **Summary**

The object of this research was to therefore provide Canadian park agencies and managers with baseline information as to allow for more effective and efficient marketing and

management of Canadian park systems. The purpose is to understand elements of park visitors' commitment to parks and protected areas with focus on psychological commitment to several Alberta provincial parks. As much of the previous literature refers to non or suburban parks (Cohen et al., 2007), or single effects (Floyd, 1999; Lucas, 1990; Scott & Jackson, 1996; Scott & Munson, 1994), the present study sought to examine both single and combined effects of age, gender, and socio-economic status on psychological commitment to parks and protected areas. Previous research suggests age, gender, and socio-economic status to be significant predictors of visitation (behavioural loyalty) to parks and protected areas (White, 1975; Lucas, 1990; Meeker, 1991; Scott & Jackson, 1996; Scott & Munson, 1994; Manning, 1999; Lee et al., 2001; Solop et al., 2003; The Praxis Group, 2008). As a result, this study assessed these predicting variables for attitudinal commitment to parks and protected areas.

The first question of this study was:

1) Are younger-aged park visitors more committed (attitudinally and behaviourally) to parks and protected areas than older-aged visitors?

The expected finding here is that age will be negatively associated with psychological commitment to parks and protected areas. Several previously conducted studies have suggested that younger adults visit parks more often than older adults (Kelly, 1980; Scott & Munson, 1994; Scott & Jackson, 1996). For example, Cohen et al. (2007) pointed out that younger age groups are more likely to visit urban parks than older age groups while similar age-related trends have also been reported in the province of Alberta at the provincial level (The Praxis Group, 2008).

The second question of the study was:

2) Are male park visitors more committed (attitudinally or behaviourally) to parks and protected areas than female visitors?

The expected finding here is that a gender difference in park commitment exists with men being more committed than women. This expectation is due to several previous findings. Manning (1999) reported an apparent 'gender gap' where women engaged in less recreational activities in general than men, with Meeker (1991) and Shaw (1999) both claiming that men engage in outdoor recreation activities more than women. Additionally, research on urban park usage found that men are more likely to visit parks than are women (Cohen et al., 2007).

The third question of the study was:

3) Are higher socio-economic status park visitors more committed (attitudinally and behaviourally) to parks and protected areas than lower socio-economic status visitors?

It is anticipated that socio-economic status will also be associated with commitment as previous findings indicate that those who are well educated and financially comfortable are more likely to visit a park or protected area than those who are less educated or less financially stable (Eagles et al., 2002; Eagles, 2004; The Praxis Group, 2008; Alberta Tourism, Parks and Recreation, 2013). Those with higher income levels and more education are often confronted with a smaller frequency and lower intensity of both intrapersonal and interpersonal constraints (Jackson, 1990), and consequently may be more committed to parks and protected areas. Other studies have also suggested that socio-economic status is a substantial determining factor of park visitation advising its inclusion for further analysis (White, 1975; Lee at al., 2001; Solop et al., 2003).

The fourth question of the study was:

4) Do the travel motivations of park visitors act to moderate the relationship between demographic factors (age, gender, SES) and low commitment (or its antecedent

processes - resistance to change, informational complexity, position involvement, and volitional choice) to parks and protected areas?

The particular travel motivations that are more likely to result in park visitation will often be different for men and women, as well as older adults and younger adults, and for those of low socioeconomic status (SES) and those of high SES (Tinsley, Tinsley, & Croskeys, 2002; Cohen et al., 2007; Lemieux et al., 2012; Lemieux et al., 2014). Different reported travel motivations may therefore play a moderating role for groups displaying low commitment scores. For example, the Tinsley et al. (2002) study found that older adults, while being less likely to visit a park or protected area compared to younger age groups (The Praxis Group, 2008), are most likely motivated to visit a park for social purposes. This points to a potential moderating effect that social motivations may have between age and low park commitment scores. This moderating effect is one that is hypothesized to result in higher commitment scores for older adults indicating their motivation for travel was socially driven (at least somewhat important).

Lemieux et al. (2012) and Lemieux et al. (2014) determined that women are much more likely than men to be motivated to visit a park or protected area for both psychological and spiritual reasons. As it is anticipated that women will score lower than men regarding park commitment, psychological and spiritual motivations may moderate or change the nature of this relation. More specifically, women may see higher commitment scores when their motivation for travel is psychologically or spiritually based.

As discussed previously, individuals falling on the lower end of both financial stability and education are less likely to visit a park or protected area often due to their increased exposure to and severity of constraints (Eagles et al., 2002; Eagles, 2004; The Praxis Group, 2008; Alberta Tourism, Parks and Recreation, 2013). Visiting a park or protected area is often

viewed as a fiscally responsible trip or vacation as it is relatively inexpensive when compared with many other types of travel and destinations (Eagles, 2014). As a result, there is another potential moderating effect to be found here. The travel motivation financial well-being may moderate the relation between low park commitment scores and socio-economic status (SES) in that those with low SES scores may be more committed when they indicate their motivation for travel was due to the inexpensive nature of that recreation and leisure activity (economic well-being). The expected finding, therefore, is that low SES individuals will be more committed when they are economically motivated to travel.

3.0 METHODS

This chapter is meant to familiarize the reader with the case study locations and methods of data collection. The chapter then describes the construction and measurement of the dependent, independent, and moderating variables, as well as the data analysis procedures.

3.1 **Questionnaire Locations**

The two case study locations, Cypress Hills Provincial Park and the Kananaskis Country Provincial Recreation Areas, are in the Canadian Province of Alberta and were surveyed in the summer of 2012. They were selected for their diversity in natural environment as well as visitor activities and services offered. Cypress Hills Provincial Park and the Kananaskis Country Provincial Recreation Areas have fairly high visitor numbers (Lemieux et al., 2012; Government of Alberta, 2012) and are in close proximity to highly-populated cities, which added to the likelihood a substantial number or participants would be surveyed in a short period of time.

The Alberta provincial protected area system contains 475 protected areas each of which are governed under one of the *Provincial Parks Act*, *Ecological Reserves, Natural Areas and Heritage Rangelands Act*, the *Wilderness Areas*, or the *Willmore Wilderness Park Act*. Alberta's *Provincial Parks Act* allows for the establishment of provincial protected areas under any one of the eight classifications (Government of Alberta, 2012), the majority of which being Provincial Recreation Areas (PRAs) (208) and Provincial Parks (75). The Alberta provincial park and protected area system is managed by Alberta Tourism, Parks, and Recreation with a vision to "…inspire people to discover, value, protect, and enjoy the natural world and the benefits it provides for current and future generations" (Government of Alberta, 2012, p. 2). The system is managed with several goals in mind according to the government of Alberta's 2009 *Plan for Parks* which claims the desired outcomes of park operation to be: (1) people-friendly

communities and recreational opportunities, (2) healthy ecosystems and environment, and (3) sustainable prosperity supported by our land and natural resources (Government of Alberta, 2012).

3.1.1 **Cypress Hills Provincial Park**

Cypress Hills Provincial Park, located on the border of Alberta and Saskatchewan, was founded in 1989 (Alberta Tourism, Parks and Recreation, 2013) and is home to the Fort Walsh National Historic Site of Canada where visitors can experience what life was like for the North West Mounted Police of the 1880's (Cypress Hills, 2014). The park is Canada's first interprovincial park as it occurs within both Alberta and Saskatchewan with the Alberta portion being managed under Alberta's Provincial Parks Act. The park's 20,000 hectares of land houses over 220 bird species, 47 mammal species (Cypress Hills, 2014), and contains habitats for a variety of various amphibian and reptile species (Alberta Tourism, Parks and Recreation, 2013). Cypress Hills Provincial Park's unique climate and mix of mountainous forests, grasslands, and wetlands also provide a natural habitat for three important species: the tiger salamander, boreal chorus frog, and the endangered northern leopard frog (Alberta Tourism, Parks and Recreation, 2013) as well as accommodate at least 18 species of orchids; more than any other prairie location (Cypress Hills, 2014). The area also includes several lakes and reservoirs: Elkwater Lake containing naturally occurring Yellow Perch and Northern Pike (and is the only lake where all boat types are permitted); Reesor Lake, Bullshead Reservoir and Michelle Reservoir where annual stocking of Rainbow Trout occur; and Spruce Coulee which is also stocked annually with Brook Trout (Cypress Hills, 2014).

Provincial Parks in Alberta focus on preserving natural heritage by protecting both natural and cultural heritage landscapes, as well as promote outdoor recreational activities that

support and appreciate such landscapes. The outdoor recreational activities are to be compatible with the natural environment and often include supportive on-site facilities (Alberta Tourism, Parks and Recreation, 2013). Common warm weather activities include: wildlife viewing, fishing, hiking, golfing, swimming, biking, sightseeing, and boating; common cold weather activities include: ice fishing, tobogganing, cross-country skiing, winter camping, snowshoeing, and downhill skiing (Cypress Hills, 2014). The Cypress Hills visitor centre is open all year round supporting visitation all 12 months of the year and is located near the south shore of Elkwater Lake in close proximity to 7 of the park's 10 campgrounds with roughly 350 individual campsites nearby (Cypress Hills, 2014). The remaining 3 campgrounds with more than 50 individual sites are spread across the hills of the park accessible by some of the roughly 50 km's of hiking trails that vary in difficulty, 15 km's of which are groomed and track set for cross-country skiing (Cypress Hills, 2014).

The mountainous regions of the park also contain lookout points, the two most popular being Reesor Viewpoint and Horseshoe Canyon Viewpoint, where visitors can gaze upon more than 100km's of flat prairie land, coulees and rolling hills of un-glaciated land known as an erosional plateau formed by "millions of years of sedimentary deposition followed by millions of years of erosion" (Cypress Hills, 2014, n.p.). Interestingly, a 1970's archaeology project was successfully able to reveal the existence of humans in the hills (near the Elkwater townsite) for more than 8,500 years (Cypress Hills, 2014).

3.1.2 **Kananaskis Country Provincial Recreation Areas**

Alberta's Kananaskis country contains several separate islands of protected land spread across the region (Alberta Wilderness Association [AWA], n.d.). Several of these protected area islands are classified as Provincial Recreation Areas (PRAs), established under the *Provincial*

Parks Act, and are intended to provide small recreational spaces that are not managed with ecological conservation or cultural heritage preservation as their primary goal but rather to support a wide range of outdoor recreation activities in natural, modified, and manufactured settings (Government of Alberta, 2012). Alberta's PRA's also function as staging areas by localizing the impact of development serving to protect various adjacent crown lands and waters. Alberta Tourism, Parks, and Recreation (Government of Alberta, 2012) developed the following statement to elaborate on how the PRA's contribute to the region and benefit Albertans overall:

> These Provincial Recreation Areas (PRAs) accommodate a wide range of safe and enjoyable outdoor public recreation use while limiting the impacts of that use on natural and cultural features. Together with the network of designated recreation trails that are connected to many of the PRAs, they form a very significant component of the outdoor recreation spectrum in the Calgary region. (p. 3)

Surveying ensued in three of the region's PRAs in the Elbow Valley: Elbow Falls, Elbow River, and McLean Creek. The total area each contains varies in size with Elbow Falls housing over 95 hectares, Elbow River over 232 hectares, and McLean Creek at over 245 hectares. The Elbow River PRA most recently published visitor numbers in 2005/06 reporting the annual visitation to be at approximately 89,758 visitors.

The Alberta Kananaskis region together consists of a fairly small share of parklands surrounding the City of Calgary as well as the provinces Eastern Slopes foothills and mountains which collectively include a significant portion of the flow of the Bow watershed (Government of Alberta, 2012). Kananaskis country, a portion of Kananaskis region, protects roughly 40% of the total land in the area and manages the land under the provincial parks legislation (Government of Alberta, 2012). The PRAs of this area provide habitat for a range of species that

include: cougars, elk, deer, moose, wolves, lynx, bobcat, mountain goat, bighorn sheep, and grizzly and black bears. Many of these species are able to benefit from isolated protected patches of land that provide critical winter habitat locations as well as movement corridors allowing animals to travel to other protected areas within the region. The region's natural beauty, spectacular scenery, diverse vegetation, wildlife attractions, recreational opportunities, and proximity to Calgary make it the province's busiest recreational area (Government of Alberta, 2012).

3.2 **Data Collection**

The data were collected through a questionnaire entitled the Alberta 'Healthy Outside – Healthy Inside' survey. Much of the survey focused on measuring Alberta park visitor perceptions, which according to Relph (1976) can result in the production of meaningful evidence pertaining to how people experience and use parks. In addition, a key element to society's acceptance of, and continued support and approval for protected area management are the (perceived) personal benefits gained from visitation (Bushell, & Eagles, 2007).

According to Yin (2012), case study research is most applicable when a desire to understand a case in-depth subsists that is set in the real world. With case study research, "the case is an object of interest *in its own right* and the researcher aims to provide an in-depth elucidation of it" (Bryman, Bell, & Teevan, 2012, p. 38). In the 'Healthy Outside – Healthy Inside' survey the case or group under study was Alberta park visitors of the two protected areas. The design was exploratory in nature as the case under study was characterized by a lack of preliminary research and sought to begin to fill a substantial gap in literature. However, as Yin (2009) asserts, "case studies are far from being only an exploratory strategy" (p. 6), rather, they can often be "the basis of substantive research projects in their own right" (Veal, 2011, p. 343).

With little empirical evidence of the association between perceived health and well-being motivations and benefits with park visitation, the original survey was designed in hopes of illuminating the role that parks and protected areas can play in human health. And although many researchers contend that "the method [case study] does not seek to produce findings which are generally or universally representative… if research has no implications beyond the particular case at a particular time and place, there would be little point in conducting it" (Veal, 2011, p. 344).

The survey, found in Appendix A, employed a non-probabilistic, opportunistic sampling technique. Due to the sampling technique employed, the data may not be a representative sample of Alberta Park visitors. However, attempts to expand respondent diversity included: surveying at various times across the span of a day, during the busiest months of the year (July, August, and September, 2012), and on a systematic mix of both weekends and weekdays. The data collection process targeted individuals on a next-available basis that were over the age of 18 and were visiting one of the two case study locations during the sampling periods. Participation was voluntary and respondents were not asked to include any identifying information as to ensure anonymity and confidentiality of the survey. Respondents were surveyed using an application software called iSurveysoft's iSurvey, an Apple® iPad™ and the results were compounded and organized using IBM SPSS Statistics version 21.

Access to the data has been granted to the researcher through an ethics/confidentiality agreement. The agreement has been signed by both the researcher as well as the owners of the intellectual property or secondary data: Dr. Chris Lemieux (Wilfred Laurier University), and Dr. Sean Doherty (Wilfred Laurier University). No third parties (with the exception of the supervising professors for this research) are permitted access to the data.

3.3 **Variables and Scales**

3.3.1 **Demographic Independent Variables**

There are three variables from the original questionnaire (Appendix A) that for the purposes of this analysis will be treated as independent or predictor variables: *age, gender, and socio-economic status (SES).* For the *age* variable participants wrote numerically their year of birth resulting in it being in continuous form. *Gender* had only two groups with male being the first, and female being the second; for regression analysis purposes males were coded as 0, and females as 1. Annual household income had respondents check off which income category their total household income fell into with 10 categories, the first being 'less than $10,000', the last being '$170,000 or more', and all others moving sequentially upwards of $10,000 in increments of $19,999 (e.g. $10,000-$29,999). Highest education level obtained had respondents indicate in which of the seven educational categories their highest achievement fell into (1 = no certificate, diploma or degree; 2 = secondary [high] school diploma or certificate; 3 = registered apprenticeship or trades certificate or diploma; 4 = college, CEGEP or other non-university certificate or diploma; 5 = university certificate or diploma below the bachelor's level; 6 = university certificate or diploma or degree at bachelor's level; 7 = university certificate or diploma or degree above bachelor's level').

The *SES* variable collapsed 'household income' and 'highest educational level' into one single standardized measure displayed in units of standard deviations. As suggested by Westerhof and Barrett (2005), this variable was calculated by first standardizing (to z-score) values for income and education, then computing the mean of those standardized values of income and education. A Pearson correlation coefficient assessed the relationship between the *SES* variables income and education. There was a highly significant positive correlation between

both the income (M = 5.96, SD = 2.49) and education (M = 4.55, SD = 1.80) variables (r = 0.276, n = 547, p = <.001). This finding suggests that with higher education comes higher levels of income, and vice versa; supporting the rationale for treating both variables as one combined *SES* variable. The predicting variable *SES* does not include 'new education' (a separate measure from the questionnaire) as it was not normally distributed due to it having only 3 options for participants to select, with most choosing 'no university degree'.

3.3.2 **Dependent Variables**

For the purpose of this secondary data analysis, the working definition of *commitment* "specifies *information, identification, and volition* as antecedent processes of *commitment* that facilitate its root tendency, *resistance to change*" (Pritchard et al., 1999, p. 335). Jacoby and Kayner (1973) similarly pointed out that the most imperative evidence for commitment is resistance to change; and although it is subject to various other outcomes, they contend that the primary outcome is the presence of *loyalty*. Treating the concept of commitment as the 1999 research had will allow for measurement of "both consumer purchase behaviour as well as attitude toward a service, thus moving beyond the criticized single dimension scales that measure only repeat purchases" (Dawson, Havitz, & Scott, 2011, p.392).

3.3.2.1 **Psychological Commitment Instrument**

The Pritchard et al. (1999) study's four-factor (*resistance to change, informational complexity, position involvement, and volitional choice*) validated measure of *commitmen*t is known as the *psychological commitment instrument (PCI)* and was developed following Churchill's (1979) recommended scale construction procedures. This instrument "describes the relationship between *resistance to change* and *loyalty* as substantive and direct, while the informational, identification, and volitional processes, although related to *loyalty*, will have a

significant yet indirect effect (via *resistance to change*) on that outcome…*commitment*'s antecedent processes will first foster a sense of *resistance to change*, which in turn will mediate the effect of these processes on *loyalty*" (Pritchard et al., p. 337). The *'resistance to change'* factor essentially functions as a mediator in that "it accounts for the relation between the predictors [i.e. antecedents] and the criterion [i.e. outcomes]" (Baron & Kenny, 1986, p. 1167, as cited in: Pritchard et al.).

Commitment's informational processes can act to maximize *resistance to change* in several ways. First, *informational complexity* refers to the level of knowledge one has about a service provider (Dawson, Havitz, & Scott, 2011) and acts to "form a detailed array of cognitions that support *commitment*" (p.335). Cognitive consistency then works by defending the complex cognitive structures (formed through *informational complexity*) and an individual's *commitment* when facing opposing information. Functioning congruently, "the informational processes of *commitment* not only serve as a cognitive blueprint to process and accumulate consistent information but also as a defense mechanism that reinterprets, suppresses, or loses information that is inconsistent" (Tessar & Leone, 1977; as cited in: Pritchard et al., 1999, p. 335). The final informational process element is confidence. Day (1970) claimed that being confident about ones decisions or judgement can have the effect of stabilizing current commitment attitudes or levels.

Identification processes also influence *resistance to change*. When one is willingly public about a decision or action, they are engaging in what Pritchard et al. (1999) call *position involvement*. This is apparent when important individual values or self-images are perceived in a particular stand, product, or service provider. Beatty and Kahle (1988) added that people are

less likely to change a preference when a high willingness to publicly and personally identify with a product or stand exists.

Volitional processes can also act to maximize *resistance to change*. *Volitional choice* is a process referring to the perceived level of freedom one has when making a decision, including both freedom from constraints and freedom to choose (Pritchard et al., 1999). Free choice can be viewed as a requirement for internal commitment development "because the freedom to choose greatly influences the internal organization of an action's meaning and hence the degree of commitment" (Pritchard et al., p. 336).

3.3.2.1.1 **PCI Development**

Initially, 65 items were developed to reflect *psychological commitment* according to Churchill's (1979) recommended procedures beginning with a literature review that produced a pool of items intended to measure the concept's hypothesized components. Next, rigorous scale purification procedures including content and construct validity assessments, internal reliability examinations, and exploratory factor analysis led to the elimination of several items. This process occurred until "all items retained had corrected item-to-total correlations of greater than 0.4" (Zaichkowsky, 1985: as cited in Pritchard et al., 1999). The principal axis factoring matrix (exploratory factor analysis), attached under Appendix B, is comprised of four factors each with eigenvalues greater than 1.0 and includes 3 items which were eliminated due to either low item-to-total correlations (communality) or a significant cross loading. These items were then subject to confirmatory factor analyses to ensure external validity and reliability.

The mediating-effects-model (M-E-M) developed in the 1999 research was tested against two other competing direct-effects-models (D-E-Ms) to determine "whether mediation is in fact the most accurate way to describe the construct's link with loyalty" (Pritchard et al., p. 337). A

visual display of the three models can be found under appendix C. Three path analyses were completed (included under appendix D) to establish the most appropriate fit leading to the determination that the M-E-M model produced more significant findings (significant structural coefficients for 11 out of 12 direct pathways, $p<.01$), a mediation effect was present (resistance to change had a significant effect on loyalty, 8 of the 9 antecedent processes paths had a significant effect on resistance to change), and that the model was a good fit with the data (accounting for more than 60% of the variance for resistance to change in each case, simultaneous multiple correlations = .63, .67, .60; all 3 paths produced significant chi square statistics, $df = 83$, $p<.01$; goodness-of-fit = .95, .94, .96; adjusted goodness-of-fit = .92, .92, .94).

3.3.2.1.2 **Outcome Variable - PCI and Subscales**

The outcome variable for *commitment* (Pritchard et al., 1999) was for this research treated as one variable encompassing all of the 12 commitment measures (used in the original questionnaire) where each of the *PCI*'s four factors is comprised of 3 different measures. The *PCI* in this case has a raw alpha of .74, surpassing Nunnaly's (1978) 0.7 threshold for an acceptable reliability coefficient. Each measure was assessed on a 5-point scale ranging from strongly disagree to strongly agree and coded so higher numbers refer to higher levels of *psychological commitment* (strongly disagree=1, strongly agree=5).

Resistance to change (Pritchard et al., 1999) included: my preference to visit parks for leisure and recreation would not willingly change to an alternative leisure or recreation setting; it would be difficult to change my beliefs about parks to an alternative leisure or recreation setting; to change my preference from visiting parks to other recreational and leisure settings would require major rethinking. The second resistance to change measure was originally 'it would not be difficult' but was revised to exclude 'not' as well as recoded where higher mean scores

indicate stronger levels of agreement and therefore more commitment. This measure or subscale's Cronbach alpha is .42. To better understand the nature of this relatively low alpha inter-item correlation analysis was conducted and the second measure (it would be difficult to change my belief about parks) was weakly correlated with the other two items (r = .03, p = n.s.; r =.20, p < .001).

Informational complexity (Pritchard et al., 1999) included: I really know much about parks; I am knowledgeable about parks; I consider myself to be educated on parks. The first measure here has also been altered, as originally the question was 'I really do not know much about parks'. The new measure excludes 'do not' and has been recoded so higher mean scores indicate stronger levels of commitment. These 3 questions make up the informational complexity measure or subscale with a Cronbach alpha of .82.

Position involvement (Pritchard et al., 1999) included: I prefer to visit parks because it makes me feel important; I visit parks because its image comes closest to reflecting my lifestyle; when I visit my preferred park it reflects the kind of person I am. These 3 questions make up the position involvement measure or subscale with a Cronbach alpha of .73.

Volitional choice (Pritchard et al., 1999) included: my decision to visit this park is my own decision, freely chosen from several alternatives; I controlled the decision on whether to visit this park; I am fully responsible for the decision to visit this park. The second measure was originally worded 'I did not control the decision on whether to visit this park' but has also for the purposes of this research been rephrased to exclude 'did not' and recoded so higher reported scores refer to higher levels of commitment to parks and protected areas. These 3 questions make up the volitional choice measure or subscale with a Cronbach alpha of .72.

3.3.2.2 **Outcome Variable - Behavioural Loyalty**

Iwasaki and Havitz (2004) claim that when measuring *loyalty*, an outcome of *commitment* (Pritchard et al., 1999), researchers should analyse the concept by considering both behavioural as well as attitudinal components. The *PCI* is best able to capture attitudinal loyalty by assessing the *psychological commitment* components mentioned above (Pritchard et al.). Behavioural *loyalty* can be measured by assessing one or more of its various components: frequency (number of uses over a given time period), sequence (attendance or purchase patterns between competitors or within), intensity (amount of time dedicated to participation), probability of use over time (predictive ability for future behavioural loyalty), proportion (the percentage of activity or stand loyalty), and duration (length of participation) (Iwasaki, & Havitz).

For the purposes of this secondary data analysis, behavioural *loyalty* was measured by assessing *frequency* and *duration*. The questionnaire assessed *frequency* of use at that park over the previous 12 months (participants indicating this visit to be more than the first over the previous 12 months wrote in numerical form their total number of visits) and *duration* of the particular visit when participation in this survey was requested (with respondents indicating their visit to have been either one day or less, or numerically writing out the number of days their total visit included).

3.3.3 **Moderators**

The moderators used in this secondary data analysis were travel motivations. Travel motivations and perceived benefits (found in Appendix A) from the park visitors were assessed measuring 11 diverse items (e.g. *physical well-being* [for physical activity like hiking, swimming, canoeing], *psychological/emotional well-being* [for restoration from mental fatigue, relaxation, solitude and quiet], *social well-being* [for opportunity for increased social

interaction/bonding with family, friends, and others], *intellectual well-being* [for opportunity to engage in creative and stimulating activities], *spiritual well-being* [to connect with nature, to be inspired by nature, to seek meaning and purpose of life], *ecological well-being* [to experience the natural environment, sense of ecological citizenship], *cultural well-being* [to experience cultural and historical heritage], *environmental well-being* [to experience sense of place, the outdoor environment, or desirable weather conditions], *occupational well-being* [to improve my ability to work after my visit], *economic well-being* [to support my local economy], *financial well-being* (relatively inexpensive recreational and leisure activity)].

The 11 items were measured on a 7-point Likert-type scale (not at all important = 1, not important = 2, somewhat not important = 3, neutral = 4, somewhat important = 5, important = 6, very important = 7). The motivations and perceived benefits assessed were substantiated through a number of discrete yet complementary assortments of literature "including subjective well-being (Diener et al., 2009), population well-being (e.g., Bobbit et al., 2005; Foster, & Keller, 2007; Bradshaw, & Richardson, 2009), and from theory and research on human health, well-being, and place (e.g., Manzo, 2003; Patterson, & Williams, 2005; Eyles, & Williams, 2008; Muhajarine et al., 2008)" (Lemieux et al., 2012, p.73).

For analysis purposes, the 11 motivational measures or items were factor analysed to determine where, if at all, meaningful groups could be developed. All 11 motivation items demonstrated their factorability exhibiting communalities above .4 (found in Table 2). A principal components factor analysis of the 11 items, with a varimax rotation (with Kaiser Normalization), determined that for travel motivations three groups could be formed cumulatively accounting for nearly 60% of the variance. Initial eigenvalues indicated that variance for the first three motivational factors were 38%, 12%, and 10% respectively. These

three groups or motivational factors each had initial eigenvalues over 1 with the remaining factors being under that threshold accompanied by an apparent 'levelling off' on the scree plot.

All items used in the principal components analysis included primary loadings that were over .5 in each case. Each item's primary loading in factor one was over .6, and over .7 in factor two. One item did have a cross-loading above .4 (economic well-being), though its primary loading was a strong .74. The factor loading matrix, including communality, is presented in Table 2. Internal consistency for each factor was inspected using Cronbach's alpha, each of which were found to be moderate: .56 for the *psycho-social* factor (3 items); .81 for the *spiritual/ecological* factor (5 items); and .71 for the *economical* factor (3 items). The descriptive statistics, including the Cronbach alpha's, are found in Table 3. Note that the mean displayed in Table 3 refers to how motivated participants were by that particular motivational factor to travel to the park on a 7 point Likert-type scale where higher scores indicate a larger motivation (ranging from 1=not important, to 7=very important).

Table 2. *Factor Loadings and Communalities Based on a Principle Components Analysis with Varimax Rotation for 11 Travel Motivation Items Particular to Well-being (N = 634)*

Motivation	Psycho-social	Spiritual /Ecological	Economic	Communality
Physical Well-being	.58			.44
Psychological Well-being/Emotional Well-being	.78			.66
Social Well-being	.67			.48
Intellectual Well-being		.63		.54
Spiritual Well-being		.62		.54
Ecological Well-being		.80		.68
Cultural Well-being		.72		.70
Environmental Well-being		.69		.55
Occupational Well-being			.70	.59
Economic Well-being			.74	.73
Financial Well-being			.81	.69
Percentage of Variance Explained	25.57	17.99	16.09	

Note. Factor loadings < .5 are suppressed.

Table 3. *Descriptive Statistics for 3 Motivational Grouped Factors*

Motivational Factor	No. of items	Internal Consist-ency (α)	*M*	*SD*	SE
Psycho-social	3	.56	5.86	.88	.1
Spiritual/Ecological	5	.81	5.20	1.05	.1
Economical	3	.71	4.55	1.31	.1

3.4 **Secondary Data Analysis**

Analysis of the data was conducted using PASW (SPSS) statistical software. The sample size was 634. The data were used to analyse the independent, dependent, and moderating variables. The following RESULTS section begins with descriptive statistics for the study's variables followed by several linear regression models.

Age, gender, and *SES,* the independent variables, were tested against the grouped moderating measures, *travel motivations,* to determine potential interaction effects pertaining to the outcome or dependent variables: *psychological commitment* and its four subscales *resistance to change, informational complexity, position involvement, and volitional choice*. Analysis included the application of a series of *age* by *motivations*, *gender* by *motivations,* and *SES* by *motivations* interaction assessments. In each regression analysis for the 5 outcome variables, model 1 assesses the demographic variables, model 2 then also considers travel motivations, and model 3 looks at the variable interactions. Those interactions deemed significant were further explored using PROCESS SPSS macro (Hayes, Preacher, & Myers, 2011) to assess simple slopes of both high and low levels of the moderating variable across the range of the independent variables.

4.0 RESULTS

4.1 **Descriptive Statistics**

Table 4 displays the descriptive statistics regarding the demographic or independent variables under study (age, gender, SES), as well as the means and standard deviations for the moderator variables (travel motivations) and the outcome variables (psychological commitment and its four subscales). The average participant age was just over 43 years old (*SD* = 13.65; min = 18, max = 90). Participants were fairly equally distributed regarding gender with slightly under half (49.7%) identifying as female and nearly the same (50.3%) identifying as male. The average education level of the participants was somewhere between having a university certificate or diploma below the bachelor level and having a college, CEGEP or other non-university certificate or diploma. Average total household income levels were in the $90,000 and $109,000 range. The SES variable combined the two measures into one standardized item. The Z-score mean for SES was -.02 (*SD* = .83) with all scores falling within the range of -1.98 (min) to 1.62 (max).

Table 4. *Means, Frequencies, and Standard Deviations for Demographics, Travel Motivations, Psychological Commitment, Resistance to Change, Informational Complexity, Position Involvement, and Volitional Choice*

Variables	*M/Percent*	*SD*
Demographics		
Age	43.24	13.65
Female	49.70	--
SES	-.02	.83
Travel Motivations		
Psycho-social	5.86	.88
Spiritual	5.20	1.05
Economic	4.55	1.31
Commitment		
Psychological (PCI)	3.63	.50
Resistance to Change	3.58	.69
Informational Complexity	3.60	.75
Position Involvement	3.26	.81
Volitional Choice	4.07	.79

Note: Motivations measured on 7-point scale, Commitment measured on 5-point scale.

4.1.1 **Descriptive Statistics by Survey Location**

When looking at the differences in descriptive statistics for the two survey locations (Cypress Hills and Elbow Valley) there do appear to be some worth noting (found in Table 5). The mean age at both locations still continues to be slightly over 43 years old with the gender split also being fairly similar for both locations. There was, however, a significant difference in socio-economic status (SES) with park visitors in the Elbow Valley being significantly more affluent than park visitors in Cypress Hills. Regarding motivational differences, visitors in the Elbow Valley were significantly more motivated to travel for psycho-social and spiritual/ecological reasons than were visitors in Cypress Hills Provincial Park. No significant differences concerning economic motivations were found as well as for each of the commitment measures between the two locations.

Table 5. *Means, Frequencies, and Standard Deviations for Demographics, Travel Motivations, Psychological Commitment, Resistance to Change, Informational Complexity, Position Involvement, and Volitional Choice by Survey Location*

	Cypress Hills		*Elbow Valley*	
Variables	*M/Percent*	*SD*	*M/Percent*	*SD*
Demographics				
Age	43.38	13.04	43.12	14.16
Female	50.00	--	49.40	--
SES[a]	-.12	.75	.07	.88
Travel Motivations				
Psycho-social[b]	5.74	.90	5.95	.85
Spiritual[c]	5.09	1.04	5.29	1.06
Economic	4.52	1.20	4.58	1.40
Commitment				
Psychological (PCI)	3.64	.50	3.62	.49
Resistance to Change	3.56	.66	3.60	.71
Informational Complexity	3.65	.73	3.56	.77
Position Involvement	3.30	.85	3.23	.78
Volitional Choice	4.06	.81	4.07	.77

[a] Statistically significant difference ($t(610) = -2.89$, $p < .01$)
[b] Statistically significant difference ($t(631) = -2.93$, $p < .01$)
[c] Statistically significant difference ($t(629) = -2.46$, $p < .05$)
Note: Motivations measured on 7-point scale, Commitment measured on 5-point scale.

4.2 **Linear Regression Analysis**

4.2.1 **Psychological Commitment**

The first set of regression models assessed the associations between the demographic variables, grouped travel motivations, and interaction terms with psychological commitment. The following regression analysis of the measure 'psychological commitment' (PCI) determined that age was significantly associated with higher psychological commitment levels suggesting that participants become more committed (attitudinally) with increased age (Table 6, Model 1). The independent variable SES was also found to be significantly associated with psychological commitment (Table 6, Model 1), signifying that with higher education and income levels comes

increased levels of psychological commitment. Additionally, participants visiting the park for high psycho-social motivations were significantly associated with increased psychological commitment (Table 6, Model 2), as well as for those visiting for spiritual/ecological reasons (Table 6, Model 2). Those who reported being motivated to travel for economic reasons were also associated with greater psychological commitment (Table 6, Model 3).

The age by economic motivations interaction was also found to be significant (Table 6, Model 3) along with the SES by psycho-social motivations interaction (Table 6, Model 3). To better understand this interaction term, simple slopes were calculated and graphed (Figure 1). Participants indicating they were highly motivated to travel for economic reasons were significantly more psychologically committed at a lower (M – 1SD) age (b = -.008, SE = .01, p < .05) (see Figure 1). At low levels of being economically motivated to travel, age was not associated with psychological commitment (b = -.024, SE = .01, p = n.s.) (see Figure 1). Although the SES by psycho-social motivations interaction was significant, participants claiming to be highly motivated by this grouped measure did not score significantly different in psychological commitment regardless of their SES status (low = M – 1SD; high = M + 1SD) (b = .251, SE = .18, p = n.s.) (see Figure 2). Similarly, at low levels of psycho-social motivations, SES status was also not associated with psychological commitment (b = .082, SE = .13, p = n.s.) (see Figure 2).

Table 6. *Unstandardized Coefficients for Regression Models Showing Association of Demographics, Travel Motivations and Interaction Terms with Psychological Commitment (PCI).*

Variables	Model 1			Model 2			Model 3		
	B	*SE*		*B*	*SE*		*B*	*SE*	
Constant	3.47	.07		2.61	.16		2.56	.47	
Age	.00	.00	*	.00	.00		.00	.01	
Gender	.08	.04		.05	.04		.03	.29	
SES	.09	.02	***	.07	.02	**	-.25	.18	
Psycho-social	--	--		.10	.03	***	-.05	.09	
Spiritual/Ecological	--	--		.05	.02	*	.04	.08	
Economic	--	--		.00	.02		.23	.06	***
AgeXPsycho	--	--		--	--		.00	.00	
AgeXSpiritual	--	--		--	--		.00	.00	
AgeXEconomic	--	--		--	--		-.01	.00	***
GenderXPsycho	--	--		--	--		.01	.05	
GenderXSpiritual	--	--		--	--		.02	.05	
GenderXEconomic	--	--		--	--		-.04	.04	
SESXPsycho	--	--		--	--		.07	.04	*
SESXSpiritual	--	--		--	--		-.01	.03	
SESXEconomic	--	--		--	--		-.01	.02	
Adjusted R^2		.03			.09			.11	

* $p<0.05$, ** $p<0.01$, *** $p<.001$

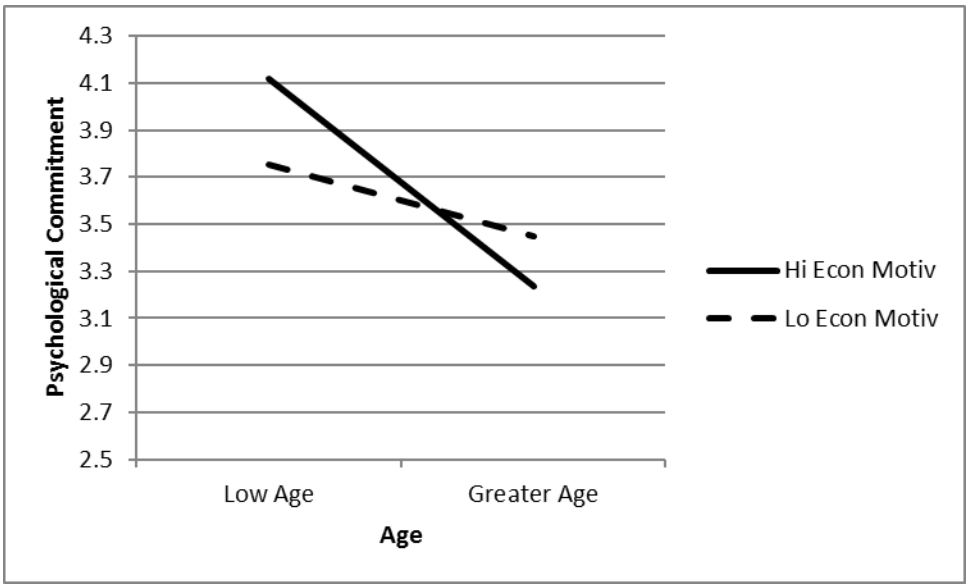


Figure 1. Association of Age with Psychological Commmitment (PCI) Moderated by Economic Motivations.

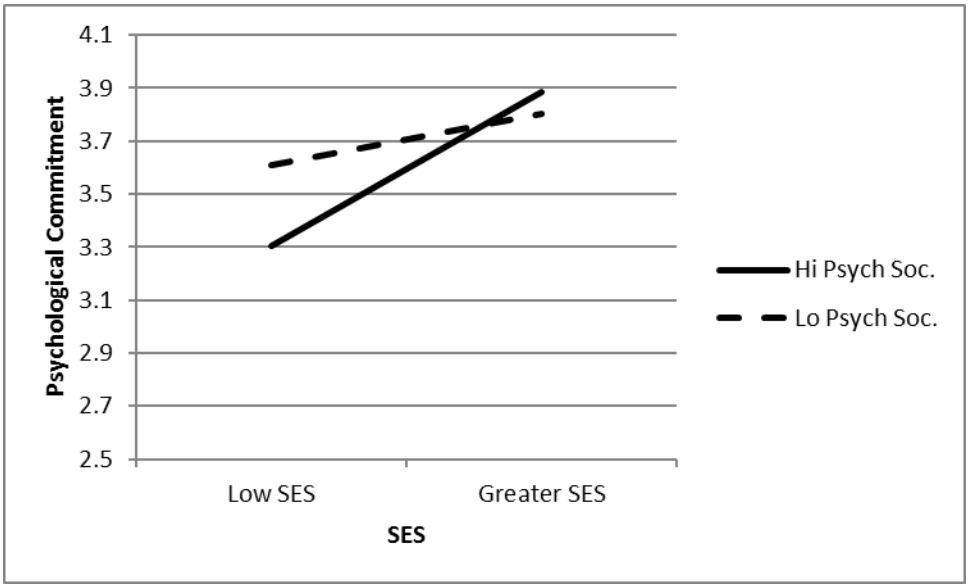


Figure 2. Association of SES with Psychological Commmitment (PCI) Moderated by Psycho-Social Motivations

4.2.2 **Resistance to Change**

A second set of regression models assessed the associations between the demographic variables, grouped travel motivations, and interaction terms with the resistance to change

subscale. This regression analysis found age to be significantly associated with resistance to change (Table 7, Model 1), suggesting that with greater age comes greater resistance to change. Higher levels of SES were also associated with higher levels of resistance to change (Table 7, Model 1). The grouped travel motive psycho-social was also associated with higher levels of resistance to change (Table 7, Model 2) as well as the economic motive (Table 7, Model 3), signifying that participants who are highly motivated to travel for either psycho-social or economic reasons are more likely to score higher on the resistance to change subscale.

The age by economic motivations interaction was also found to be significant (Table 7, Model 3). However, the simple slopes for higher levels of economic motivations (b = -.028, SE = .02, p = n.s.) as well as lower economic motivations (b = -.010, SE = .02, p = n.s.) were not found to be significant regardless of age (see Figure 3).

Given the low alpha for the resistance to change measure, these analyses were conducted with the shortened measure for resistance to change described above in the methods section. The pattern of results was similar except age was no longer a significant predictor and the age by economic motivation interaction term was marginal in this altered form of the analyses.

Table 7. *Unstandardized Coefficients for Regression Models Showing Association of Demographics, Travel Motivations and Interaction Terms with Resistance to Change.*

Variables	Model 1			Model 2			Model 3		
	B	*SE*		*B*	*SE*		*B*	*SE*	
Constant	3.40	.10		2.65	.23		2.68	.68	
Age	.00	.00	*	.01	.00	*	.00	.01	
Gender	.04	.06		.01	.06		.19	.42	
SES	.11	.03	*	.09	.03	*	.15	.27	
Psycho-social	--	--		.14	.04	***	-.06	.13	
Spiritual/Ecological	--	--		.00	.04		.02	.12	
Economic	--	--		-.03	.03		.21	.09	*
AgeXPsycho	--	--		--	--		.01	.00	
AgeXSpiritual	--	--		--	--		-.00	.00	
AgeXEconomic	--	--		--	--		-.01	.00	**
GenderXPsycho	--	--		--	--		-.04	.08	
GenderXSpiritual	--	--		--	--		.04	.07	
GenderXEconomic	--	--		--	--		-.03	.05	
SESXPsycho	--	--		--	--		.01	.05	
SESXSpiritual	--	--		--	--		.00	.05	
SESXEconomic	--	--		--	--		-.03	.03	
Adjusted R^2		.02			.04			.05	

* $p<0.05$, ** $p<0.01$, *** $p<.001$

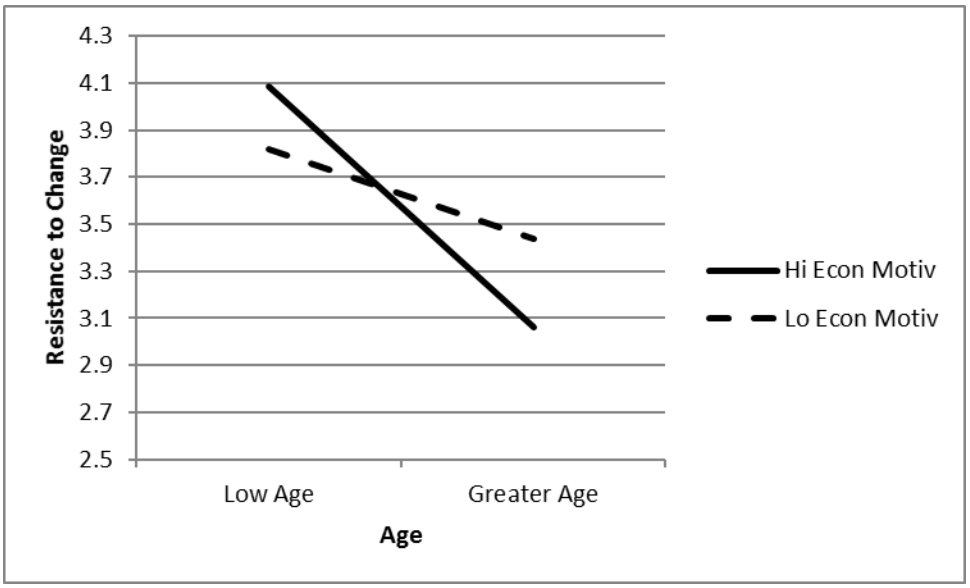


Figure 3. Association of Age with Resistance to Change Moderated by Economic Motivations

4.2.3 **Informational Complexity**

The fifth set of regression models assessed the associations between the demographic variables, grouped travel motivations, and interaction terms with the informational complexity subscale. This analysis determined that age was associated with informational complexity and the nature of the association suggests that with increased age comes increased scores on the informational complexity subscale (Table 8, Model 1). Similarly, SES was associated with informational complexity, and as the association is positive this points to higher informational complexity scores with greater SES (Table 8, Model 1). Spiritual/ecological travel motivations were also associated with informational complexity (Table 8, Model 2) as were economic motivations (Table 8, Model 3) suggesting that higher motivation in these grouped measures results in higher informational complexity scores.

Additionally, there was one significant interaction found between age and economic motivations (Table 8, Model 3). However, the simple slopes for high economic motivations (*b* =

-.015, *SE* = .02, *p* = n.s.) and low economic motivations (*b* = .011, *SE* = .02, *p* = n.s.) were not found to be significant (see Figure 4).

Table 8. *Unstandardized Coefficients for Regression Models Showing Association of Demographics, Travel Motivations and Interaction Terms with Informational Complexity*

Variable	Model 1			Model 2			Model 3		
	B	*SE*		*B*	*SE*		*B*	*SE*	
Constant	3.28	.11	***	2.60	.25	***	1.48	.74	*
Age	.01	.00	***	.01	.00	**	.03	.02	*
Gender	-.04	.06		-.07	.06		-.01	.45	
SES	.10	.04	**	.09	.04	*	-.54	.29	
Psycho-social	--	--		.07	.04		.04	.14	
Spiritual/Ecological	--	--		.09	.04	*	-.01	.13	
Economic	--	--		-.03	.03		.36	.10	***
AgeXPsycho	--	--		--	--		.00	.00	
AgeXSpiritual	--	--		--	--		.00	.00	
AgeXEconomic	--	--		--	--		-.01	.00	***
GenderXPsycho	--	--		--	--		-.04	.08	
GenderXSpiritual	--	--		--	--		.12	.08	
GenderXEconomic	--	--		--	--		-.10	.06	
SESXPsycho	--	--		--	--		.09	.06	
SESXSpiritual	--	--		--	--		-.00	.05	
SESXEconomic	--	--		--	--		.02	.04	
Adjusted R^2		.03			.05			.08	

* $p<0.05$, ** $p<0.01$, *** $p<.001$

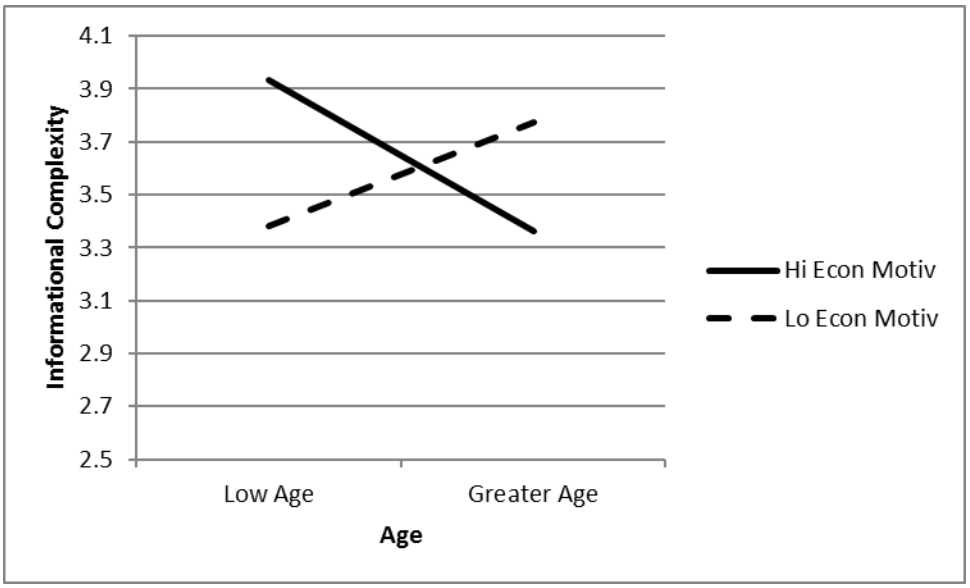


Figure 4. Association of Age with Informational Complexity Moderated by Economic Motivations

4.2.4 **Position Involvement**

The fourth set of regression models assessed the associations between the demographic variables, grouped travel motivations, and interaction terms with the position involvement subscale. This regression analysis found that being female was associated with higher position involvement scores (Table 9, Model 1). Age was also determined to be associated with position involvement in that lower ages rate their level of position involvement significantly higher than older ages (Table 9, Model 2). Spiritual/ecological motivations were associated with greater position involvement (Table 9, Model 2), as were economic motivations (Table 9, Model 2). There were no significant interactions effects in this set of regression models.

Table 9. *Unstandardized Coefficients for Regression Models Showing Association of Demographics, Travel Motivations and Interaction Terms with Position Involvement*

Variable	Model 1			Model 2			Model 3		
	B	*SE*		*B*	*SE*		*B*	*SE*	
Constant	3.35	.12	***	2.35	.26	***	2.31	.78	**
Age	-.00	.00		-.01	.00	*	-.00	.02	
Gender	.14	.07	*	.10	.07		-.10	.48	
SES	.00	.04		.01	.04		-.54	.31	
Psycho-social	--	--		.05	.05		-.10	.15	
Spiritual/Ecological	--	--		.09	.04	*	.08	.14	
Economic	--	--		.09	.03	**	.28	.10	**
AgeXPsycho	--	--		--	--		.00	.00	
AgeXSpiritual	--	--		--	--		.00	.00	
AgeXEconomic	--	--		--	--		-.00	.00	
GenderXPsycho	--	--		--	--		.07	.09	
GenderXSpiritual	--	--		--	--		.02	.08	
GenderXEconomic	--	--		--	--		-.07	.06	
SESXPsycho	--	--		--	--		.08	.06	
SESXSpiritual	--	--		--	--		.00	.05	
SESXEconomic	--	--		--	--		.02	.04	
Adjusted R^2		.01			.06			.06	

* $p<0.05$, ** $p<0.01$, *** $p<.001$

4.2.5 **Volitional Choice**

The third set of regression models assessed the associations between the demographic variables, grouped travel motivations, and interaction terms with the volitional choice subscale. The analysis determined that being female was significantly associated with higher scores on the volitional choice subscale (Table 10, Model 1). SES was associated with significantly higher volitional choice scores pointing to the likelihood that with increased SES comes increased levels of volitional choice (Table 10, Model 1). Furthermore, higher psycho-social motivations were also associated with higher volitional choice scores (Table 10, Model 2). There were no significant interaction effects found in this set of regression models.

Table 10. *Unstandardized Coefficients for Regression Models Showing Association of Demographics, Travel Motivations and Interaction Terms with Volitional Choice*

Variable	Model 1			Model 2			Model 3	
	B	*SE*		*B*	*SE*		*B*	*SE*
Constant	3.85	.11	***	2.81	.26	*	3.71	.78
Age	.00	.00		.00	.00		-.02	.02
Gender	.16	.06	*	.13	.06	*	-.02	.47
SES	.13	.04	***	.11	.04	**	-.09	.30
Psycho-social	--	--		.16	.05	***	-.09	.15
Spiritual/Ecological	--	--		.03	.04		.07	.14
Economic	--	--		-.01	.03		.07	.10
AgeXPsycho	--	--		--	--		.01	.00
AgeXSpiritual	--	--		--	--		.01	.00
AgeXEconomic	--	--		--	--		-.00	.00
GenderXPsycho	--	--		--	--		.05	.09
GenderXSpiritual	--	--		--	--		-.08	.08
GenderXEconomic	--	--		--	--		.07	.06
SESXPsycho	--	--		--	--		.11	.06
SESXSpiritual	--	--		--	--		-.03	.05
SESXEconomic	--	--		--	--		-.06	.04
Adjusted R^2		.03			.05			.06

* $p<0.05$, ** $p<0.01$, *** $p<.001$

5.0 DISCUSSION

This chapter begins with a dialogue concerning some interesting findings, followed by a discussion on the results pertaining to the hypotheses for this study. Next, recommendations for park agencies and managers are offered, then limitations of the study; and finally, concluding remarks. All measures included in this analysis assessed forms of attitudinal commitment only. It should also be noted that 'younger' visitors refers to those who fall more than one standard deviation away (moving downwards) from the mean (indicating that they are younger than 30). 'Older' visitors refers to those who are beyond one standard deviation (moving upwards) of the mean (indicating they are at least 57). Similarly, those of low SES fall below one standard deviation less of the mean, and those of high SES fall above one standard deviation greater than the mean. And finally, visitors with high motivations (in any of the motivational groups) are those with the highest 10% mean scores of that grouped motivation's items; those with low motivations (in any of the motivational groups) are those with the lowest 10% mean scores of the grouped motivation's items.

The most prominent finding regarding attitudinal park commitment (and its four subscales) concerned the interaction between the independent variable age, with the moderating variable economic motivations. This grouped moderating measure accounted for individuals who wanted to: 1) improve their ability to work after their visit; 2) support the local economy; and 3) take advantage of the relatively inexpensive nature of the activity. Of the 4 significant interaction terms, 3 pertained to the interaction between age and economic motivations. In each of these cases (with psychological commitment, resistance to change, and information complexity as the outcome variables respectively), those with high economic motives (the highest 10% mean scores of the 3 economic motivation items) were less attitudinally committed

(and less able to resist change with lower informational complexity scores) at a greater age (at least 57 years old), and more attitudinally committed (as well as with an increased level of resistance to change and informational complexity) at a younger age (less than 30 years old). Although only one of the simple slopes in that regard was found to be significant, all 3 (Figures 2, 4, and 5) regression models result in higher (attitudinal) commitment, resistance to change, and informational complexity scores for younger aged visitors.

Other notable findings included significant associations between the grouped measure psycho-social motivations (which included: physical, psychological/emotional, and social well-being) and the outcome variables: psychological commitment, resistance to change, and volitional choice. Greater psycho-social motivations were significantly associated with greater psychological commitment, greater resistance to change, and greater informational complexity. There were also significant associations between the grouped measure spiritual motivations (which included: intellectual, spiritual, ecological, cultural, and environmental well-being) and the outcome variables: psychological commitment, informational complexity, and position involvement. Greater spiritual motivations were significantly associated with greater psychological commitment, informational complexity, and position involvement. And lastly, significant associations were found between the grouped measure economic motivations (which included: occupational, economic, and financial well-being) and the outcome variables: psychological commitment, resistance to change, informational complexity, and position involvement. The only outcome variable not significantly associated with economic motivations was volitional choice. Greater economic motivations were significantly associated with greater psychological commitment, resistance to change, informational complexity, and position involvement.

5.1 **Results from Hypotheses**

The first question posed for this analysis was: are younger-aged park visitors more committed (attitudinally and behaviourally) to parks and protected areas than older-aged visitors? The expected finding was that younger ages would be more committed than older-aged participants as Cohen et al. (2007) claimed was the case in urban parks, with The Praxis Group (2008) claiming the same in Alberta Parks. Interestingly, the results of this study suggest that older participants are significantly more committed (attitudinally) than younger participants. Therefore the hypothesis was not followed.

Similar significant findings were produced using the PCI's subscales as the outcome variable: resistance to change and informational complexity. The older a park visitor is, the more likely they are to resist changing their existing preference to visit parks as well as their attitude towards parks. This finding may be considered expected as one may assume people become more comfortable with their attitudes and preferences after having accumulated years of experience and are therefore more able to display confidence in their choices and state of mind. This idea is what Krosnick and Alwin (1989) call the impressionable years model where in the earlier years of the lifespan, during the late adolescent and early adulthood stages, individuals are much more susceptible to changing their attitudes. This susceptibility then drops considerably immediately after these life stages and continues to remain low throughout the remainder of the lifespan.

Regarding informational complexity, also somewhat expectedly, older park visitors were found to be significantly more knowledgeable and educated on parks than were younger park visitors. Again, this increased level of knowledge may simply be due to older adults having accumulated more years of experience, however, park agencies should be aware that with an

increased park-related knowledge base comes an increased likelihood of overall psychological commitment to parks. According to Pritchard et al. (1999), individuals who consider themselves fairly educated on a topic, have an increased likelihood to resist change in preference or attitude towards that topic, and are therefore likely to be more committed (attitudinally) to that topic essentially making them more critical (Petty, & Brinol, 2010) users or visitors.

The second question posed for this analysis was: are male park visitors more committed (attitudinally or behaviourally) to parks and protected areas than female visitors? As Cohen et al. (2007) pointed out that men are more likely to visit urban parks than are women, the expected finding here was that men would be more committed than women in the non-urban setting as well. Analysis using psychological commitment as the outcome variable did not produce a significant finding to that effect suggesting that men and women are not significantly different regarding their (attitudinal) commitment level to parks in this study. When treating the volitional choice and position involvement subscales as the outcome variables, the regression models determined women to be significantly higher than men. This primarily suggests that women control the decision to visit the park (for either themselves as an individual visitor or for their group of visitors) significantly more than men do, and that women choose to visit the park because it reflects the kind of person they are or makes them feel important to do so. Men appear, then, to control the decision to visit parks, as well as visit due to it being a reflection of their personal lifestyle or identity, significantly less than women.

This finding is particularly interesting as previous research reports women to perceive intrapersonal constraints (e.g. self-consciousness, lacking in skill or knowledge of participation opportunity, and shyness) (Raymore, Godbey, & Crawford, 1994; Alexandris, & Carrol, 1997; Hudson, 2000), and interpersonal constraints (e.g. needing to find a co-participant) (Jackson, &

Henderson, 1995) to participation much more intensely than men. Additional research on this constraint model proposed that people encounter constraints hierarchically (Crawford, Jackson, & Godbey, 1991). These findings suggest that participation is the result of successful negotiation through several sequential constraint levels. If any level of constraint is sufficiently perceived, the result is most likely nonparticipation. The authors argue that intrapersonal constraints are of the greatest importance as they "condition the will to act [and] the motivation for participation" (p. 314). After constraints at the intrapersonal level have been confronted and negotiated, depending on the activity, an individual is most likely then to experience interpersonal constraints. And finally, only after successful negotiation of these two higher-level constraints can structural constraints then be encountered. This hierarchical sequential ordering of constraints also appears to apply to existing participants as it directly influences "frequency of participation, level of specialization, level of ego involvement, and even his or her definition of the situation" (p.315). Women, according to this study's findings, seem to be negotiating the various constraints at all levels that previous findings claimed would limit their participation or engagement levels.

The third question posed for this analysis was: are higher socio-economic status park visitors more committed (attitudinally and behaviourally) to parks and protected areas than lower socio-economic status visitors? Jackson (1990) pointed out that higher income and education levels often result in a smaller frequency and lower intensity of intrapersonal and interpersonal constraints. This suggests that higher SES would lead to higher park commitment levels and is a notion supported (often in the form of behavioural loyalty) by several other pieces of literature, both academic and professional (Eagles et al., 2002; Eagles, 2004; The Praxis Group, 2008; Alberta Tourism, Parks and Recreation, 2013). The results from this study appear to be aligned

with previous findings. Similarly and as was hypothesized, this study found a significant association in that the higher one's SES, the more likely they are to be (attitudinally) psychologically committed (PCI). In addition, perhaps unsurprisingly, significant associations were found between SES and the outcome variables informational complexity, volitional choice, and resistance to change. Also supporting the hypothesis, the results of this study determined that the higher one's SES, the more likely they are to be knowledgeable on parks (informational complexity), be more in control of the decision to visit the park (volitional choice), and the more difficult to change their existing beliefs, preferences and attitudes towards parks (resistance to change).

The fourth question posed for this analysis was: do the travel motivations of park visitors act to moderate the relationship between demographic factors (age, gender, SES) and low commitment (or its antecedent processes - resistance to change, informational complexity, position involvement, and volitional choice) to parks and protected areas? There were several fascinating findings here. First, it is worth pointing out that the age by psycho-social interaction term was moderately significant ($p = .06$), but was not below the .05 threshold and could therefore not be deemed significant and simple slopes could not be calculated. Nevertheless, these findings do moderately support this study's hypothesis that social motivations would increase (attitudinal) commitment scores for older adults; an assumption based on The Praxis Group's (2008) findings that older adults reported visiting a park most often for social purposes. The older adults who were psycho-socially motivated to travel did score higher on the PCI than those who were not, though not at a significantly greater rate.

Next, both the age by economic motivations (Figure 1) and the SES by psycho-social motivations (Figure 2) interaction terms were both found to be significant with psychological

commitment as the outcome variable. In calculating the simple slopes for the age by economic motivations interaction, it was determined that those who are highly motivated to travel for economic reasons (the highest 10% mean scores of the 3 economic motivation items) are significantly more committed at a lower age. The simple slope for low economic motivations (the lowest 10% mean scores of the 3 economic motivation items) did not produce a significant result, however, the slope rises as it moves from the greater age group, at roughly 3.4 (on the PCI [1-5]), to the lower age group to roughly 3.8. While this transition or association is not significant, the main finding here appears to be that even though the greater-aged visitors may be significantly more (attitudinally) committed than the younger aged visitors, when the moderating variable 'economic motivations' is added to the analysis, the nature of the association changes. Now regardless of the level one is motivated to travel for economic reasons, high or low, with greater age now comes less psychological commitment; in each case the lower age group is more committed than the older age group.

Although the SES by psycho-social motivations interaction term was found to be statistically significant in the regression model with psychological commitment as the outcome variable; significant results were not found when calculating the simple slopes. However, participants claiming to be highly motivated to travel for psycho-social reasons are less (attitudinally) committed than the lower (psycho-socially) motivated visitors at low SES. When moving to high SES visitors, the high psycho-social group is now more (attitudinally) committed than the low psycho-social group suggesting that the opportunity to enhance physical, social, and psychological well-being is of much importance to those of high SES.

In treating resistance to change as the outcome variable, the age by psycho-social interaction term was found to be moderately significant ($p = .06$), however, simple slopes were

not calculated for this interaction as the *p* level was above .05. This finding does also moderately support the hypothesis that the association between age and commitment (and its four subscales) would be moderated by social motivations. The older adults who were psycho-socially motivated to travel did score higher on the PCI than those who were not, though not at a significantly greater rate.

Also in treating resistance to change as the outcome variable, the age by economic motivations interaction term was found to be statistically significant (Figure 3), but when simple slopes were calculated no significant findings resulted. The nature of this interaction, similar to the interaction of these two variables with psychological commitment as the outcome, suggests that those who travel with high economic motives (the highest 10% mean scores of the 3 economic motivation items) are more (attitudinally) committed to resisting change at a younger age. Older visitors who are highly economically motivated (the highest 10% mean scores of the 3 economic motivation items) are less committed than those with low economic motivations (the lowest 10% mean scores of the 3 economic motivation items); but for younger visitors, those reporting high economic motivations are more (attitudinally) committed than those with low economic motivations. For the highly motivated group here, the resistance to change score moves from 3.1 for older ages to about 4.1 for younger ages, a full point more (on the 5-point scale) towards greater resistance to change. Although the slope here is not statistically significant, this change on the subscale is worth noting.

The other significant interaction using the PCI's subscales was with informational complexity as the outcome variable and the interaction of age with economic motivations (Figure 4). The association of the interaction in this regression model is negative which suggests that with greater age comes less knowledge or education on parks (informational complexity).

Essentially, the moderating effect of economic motivations is one that appears to alter the nature of the association considerably between age and informational complexity. This change, however, as can observed from the simple slopes which did not produce significant results, is only for visitors with high economic motivations (the highest 10% mean scores of the 3 economic motivation items). For the highly economically motivated group, (attitudinal) commitment drops with age. On the other hand, visitors claiming to have low economic motivations (the lowest 10% mean scores of the 3 economic motivation items) for travel have higher informational complexity at a greater age, similar to the original finding prior to the addition of any moderating variables.

Interestingly, the hypothesis that the relation between gender and commitment (and its four subscales) would be moderated by psychological or spiritual motivations (developed based on the findings of Lemieux et al. [2012]) was not supported by the results of this analysis. Additionally, the hypothesis that the association between SES and (attitudinal) commitment (and its four subscales) would be moderated by economic motivations was also not supported. This hypothesis was established as a result of the understanding that low SES individuals face an increased frequency and severity of constraints to their leisure participation (Eagles et al., 2002; Eagles, 2004; The Praxis Group, 2008; Alberta Tourism, Parks and Recreation, 2013), and that due to the inexpensive nature of visiting a park, would be more committed when economically motivated to travel. That being said, no significant interactions with SES and economic motivations were found during this analysis.

5.2 **Recommendations**

This section of the discussion chapter contains several recommendations for park managers and agencies to consider alike. Use of the recommendations is at the discretion of the

park or government agencies managing park operations and administration. The section concludes with several recommendations for future research on the topic of psychological commitment and behavioural loyalty to parks and protected areas. The recommendations are as follows:

- With greater economic motivations being significantly associated with greater psychological commitment, resistance to change, informational complexity, and position involvement; there is a substantial opportunity to attract visitors who want to support the local economy, improve their ability to work after their visit, and participate in relatively inexpensive leisure activities. Outside of the park boundaries, outreach communication needs to stress these facets of park visitation to all Canadians. Communication can be performed through use of what Crompton and Lamb (1986) call the 'communication tasks' which include: informing, educating, persuading, and reminding. These tasks can be achieved through use of the 'promo mix' (e.g. advertising, publicity, incentives, and personal contact), and depending on the target audience, the promo mix is applied through any of the 'promo modes'(e.g. broadcast, print, on-line) (Crompton & Lamb).
- Outreach messaging programs should concentrate on connecting youth to nature as they will soon enter young adulthood where they have an increased likelihood to be committed to parks and protected areas, a likelihood that increases with environmental education (Lemieux et al., 2014). Furthermore, as the literature suggests, women prioritize differently than men often putting their own leisure pursuits behind things like work or family (Henderson & Bialeschki, 1991) with their number one priority being their children (Hudson, 2000). Connecting youth to nature

may have a desirable effect in improving attitudinal and behavioural commitment for children, mothers and families alike.

- As some of the most noteworthy findings of this study refers to higher commitment levels for younger participants motivated to be fiscal responsibility in their travels, park agencies and marketing departments need to communicate (Crompton & Lamb, 1986) to younger adults the affordability of visiting a park and how their ability to perform 'work' is enhanced as a result of visitation. Focusing efforts here, on the affordability of park visitation, could have significant impacts on increasing younger adult attitudinal and behavioural commitment levels.
- Since women control the decision to visit parks more than men, focus needs to be on what women see as important. Stressing (by performing communication tasks, and applying the promo mix through various promo modes) activities or experiences that are specifically designed to attract women may be drawing features for men as well as they may then in a sense come along for the ride (Crompton & Lamb, 1986). Ensure that upon arrival, visitors are made to feel important for coming to the park. Women need to be re-assured that their visitation is a representation of the kind of person they are, and that this kind of person is not only a desirable park visitor, but an important park visitor. Where to vacation, as argued by Madrigal (1992), is often considered a major family decision. Findings suggested that the spouse who was the most accommodating (specifically in leisure and financial matters), had the most influence on major family decisions, such as where to vacation (Madrigal). With women being more accommodating on smaller decisions, they increased their influence on major decisions. As a result, marketers may want to feature this relationship through

various strategies within the promotional mix (Crompton & Lamb). And finally, with children being the number one priority for women (Hudson, 2000), marketing goals and strategies should include the communication of benefits children obtain through park visitation. Lemieux et al. (2012) pointed out that the most common well-being improvements for children visiting parks as perceived by women were concerning physical development, social knowledge and competence, cognitive learning and language, and communication skills.

- Attention should be on what Weber and Anderson (2010) call benefits-based management, where park managers and agencies identify the various benefits they plan to offer visitors; then tailor the settings, facilities, and programs around an experience that delivers those benefits. This must be followed by measurement of the benefits accrued as perceived by visitors in order to determine effectiveness (Allen, & McGovern, 1997). As became evident from this study's findings, visitors to some parks may be seeking a different type of experience or benefit than visitors to other parks. Marketing and visitation enticement strategies may target different aspects of the park experience dependent on what reason people are motivated to visit for. For example, when the goal is to increase visitation to the Elbow Valley Provincial Recreation Areas, focus should be on psycho-social and spiritual/ecological benefits as these visitors seek those benefits significantly more than visitors to Cypress Hills Provincial Park.
- Park agencies, through the use of evidence-based messaging, may want to focus efforts on developing outreach messaging that communicates the potential benefits park visitors can attain (benefits-based management) with emphasis on the links with

human health and well-being. The more motivated individuals are to visit (for either psycho-social, spiritual, or economic reasons), they more attitudinally committed they become. Additionally, park agencies may benefit from partnering with health departments and agencies in encouraging park visitation as a form or method of improving health and well-being. This strategy, according to Lemieux et al. (2012), could have major implications for children suffering from several health-related issues. The 2012 study found, for example, that more than 78% of respondents perceived an improvement to their child's anxiety as a result of visiting a park, 80% perceived an improvement to their child's hyperactivity and inattention issues, more than 68% perceived an improvement to their child's personal-social behaviours (e.g. self-discipline), and more than 43% perceived an improvement to their child's respiratory issues. A more coordinated approach may therefore be beneficial.

- Park officials may want to consider tailoring programs to ensure there is ample opportunity for visitors (seemingly more so for older visitors) to engage in social interaction and bonding within the park setting. As physical well-being is also an important driving force for older visitors as well, finding a way that combines a physical aspect with an opportunity for social interaction may be preferable.
- Continue to develop and enhance understanding of visitor travel motivations as to be better prepared to deliver strategic advice on the effective management of parks and park systems.
- Future research may want to also consider additional variables, for example behavioural measures such as duration of stay or frequency of visits. Other suggested variables include perceived outcome measures and activities engaged in. Just as there

were 11 motivational well-being measures, the 11 perceived outcome measures were presented in the same manner. Making use of these perceived outcome measures as dependent variables in additional regression models may shed some light on other potential moderating effects with lower committed groups. Future research may also want to consider activities participants engaged in as an independent variable to assess the association between commitment levels differ and activity types.

- Additionally, future researchers who are also conducting their own data collection may want to diversify where within each park they survey park visitors. People who frequent different parts of a park may also vary in their particular use patterns and various commitment levels.
- When assessing forms of attitudinal or behavioural loyalty, future researchers may also want to specify in their questionnaire design whether it is commitment to 'this park' or commitment to 'parks' in general. This would be dependent on which type of commitment the researcher is attempting to assess as answers may vary. This study's volitional choice measures assessed the choice to visit 'this' park only, not parks in general, which may have produced different findings.
- Age by economic motivations interaction terms were found to be significant more so than any other interactions. There may be something to this point to warrant further investigation. Significant results were found for: psychological commitment, resistance to change, and informational complexity.
- Age by psycho-social motivations had (p=.06) for psychological commitment and resistance to change. There may be an effect here this analysis was unable to detect. Both times the association is positive suggesting that with increased age comes higher

psychological commitment and resistance to change scores when motivated to travel for psycho-social reasons.

5.3 **Study Limitations**

There were several limitations to this study. The first is in reference to the cross-sectional design of the research. The original questionnaire, while employing a cross-sectional approach, is limited in that it only measures associations for one particular time and place, regardless of their significance or lack thereof and therefore restricts the ability to make casual claims. Additionally, although attempts to expand participant diversity included: surveying at various times across the span of a day, during the busiest months of the year (July, August, and September, 2012), and on a systematic mix of both weekends and weekdays; the data may not be a truly representative sample of Alberta Park visitors due to the non-probabilistic, opportunistic sampling technique employed. Lemieux et al. (2012) does, however, argue that the sample was fairly representative of actual Alberta Park visitors.

Second, as this study was designed as a secondary data analysis, only the variables assessed in the original questionnaire were available for analytic purposes. While re-organization, recoding, and data manipulation was possible, these procedures were limited to use on the existing variables only. Furthermore, since the 11 well-being motivations and 12 commitment measures employed a Likert-type scale for assessment, there were a limited number of options for a participant to select from. While each option is one-dimensional in nature, they may not be fully capable of capturing the intricacies involved with well-being or commitment. Likert-type scales inherently come with an increased risk of central tendency bias where participants circumvent extreme responses, as well as recall bias where participants struggle to remember past events or feelings accurately. Additionally, self-reported surveys also come with

the risk that participants report their particular attitudes or feelings at that specific time or on that specific day, though they are not truly representative of their long-term attitudes or feelings.

The final limitation of this study related to existing visitor data. Much of the literature review makes use of statistics that are mandated to be released on an annual basis. This however, was often not the case. Much of the available visitor data for Alberta is several years old as the new data had yet to be published or released, and moreover, what is available is arguably incomplete or inaccurate as many parks and park agencies are unable to properly monitor or record such data.

5.4 **Concluding Remarks**

The main purpose of this study was to understand elements of park visitors' commitment to parks and protected areas. With a more developed understanding of the underlying components of this association, park agencies should be more able to use visitors' psychological commitment to parks as a key tool for building and maintaining societal support. While this study was limited in the sense that it cannot provide a full understanding of this complex and dynamic concept, it does appear to add to the growing body of literature on psychological commitment, with the unique contribution being the application of this measure to a parks setting.

REFERENCES

Adams, T., Bezner, J., & Steinhardt, M. (1997). The conceptualization and measurement of perceived wellness: Integrating balance across and within dimensions. *American Journal of Health Promotion, 11*(3), 208-218.

Alberta Tourism, Parks and Recreation. (2013). *Alberta Parks*. Retrieved from: http://www.albertaparks.ca/

Alberta Tourism, Parks and Recreation. (2006). *Visitation statistics: Provincial parks and recreation areas 2005/06 fiscal year*. Retrieved from: http://www.albertaparks.ca/media/123244/annualreport0506.pdf

Alberta Tourism, Parks and Recreation. (2011). *How are we doing? – Provincial summary*. Retrieved from: http://publications.albertaparks.ca/

Alberta Wilderness Association (AWA) (n.d.). *South Ghost: Introduction*. Retrieved from: http://albertawilderness.ca/issues/wildlands/areas-of-concern/south-ghost

Alexandris, K., & Carrol, B (1997). "Demographic differences in the perception of constraints on recreational sport participation: Results from a study in Greece." *Leisure Studies, 16* (2): 107-25.

Allen, L. R., & McGovern, D. (1997). BBM: It's working! *Parks and Recreation, 32*(8), 48-55.

Anspaugh, D., Hamrick, M., & Rosato, F. (2004). *Wellness: Concepts and applications* (Vol. 6th). Boston, United States of America: McGraw Hill.

Backman, S. J., & Crompton, J. L. (1991). Differentiating between high, spurious, latent, and low loyalty participants in two leisure services. *Journal of Park and Recreation Administration,* 9(2), 1-17.

Bagwell, D. C. (2000). *Work and personal financial outcomes of credit counseling clients.*

Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University. Blacksburg, United States of America.

Balmford, A. Beresford, J. Green, J., Naidoo, R., Walpole M., Manica, A. (2009). A global perspective on trends in nature-based tourism. *PLoS Bui*, 7(6), 1-6.

Beatty, S. E., & Kahle, L. R. (1988). Alternative hierarchies of the attitude-behavior relationship: The impact of brand commitment and habit. *Journal of the Academy of Marketing Science, 16*(2), 1-10.

Bertzky, B., et al. (2012). *Protected planet report 2012: Tracking progress towards global targets for protected areas*. IUCN, Gland, Switzerland and UNEP-WCMC, Cambridge, UK. Retrieved from: http://www.unep-wcmc.org/medialibrary/2012/09/14/eb3bb854/PPR2012_en.pdf

Biodiversity Indicators Partnership. (2013). *Coverage of protected areas*. Retrieved from: http://www.bipindicators.net/pacoverage

Bowler, D. E., Buyung-Ali, L. M., Knight, T. M., & Pullin, A. S. (2010). A systematic review of evidence for the added benefits to health of exposure to natural environments. *BMC Public Health, 10*(1), 456.

Bryman, A., Bell, E., Teevan, J. (2012). *Social research methods* (3rd ed.). Oxford University Press.

Bultena, G., & Field, D. (1978). Visitors to national parks: A test of the elitism argument. *Leisure Sciences, 1*(4), 395-409.

Canadian Council on Ecological Areas (CCEA) (2012). Conservation areas and reporting tracking system. Ottawa, Canada.

Canadian Index of Well-being (CIW) (2012). *How are Canadians Really Doing?* The 2012 CIW

Report. Waterloo, ON: Canadian Index of Well-being and University of Waterloo.

Canadian Parks and Wilderness Society (CPAWS) (2012). *Parks under threat: Parks report 2012*. Retrieved from: http://cpaws.org/uploads/cpaws_parksreport_2012.pdf

Canadian Parks Council (CPC) (2006). *Healthy By Nature.* Canadian Parks Council: Ottawa, Canada. Retrieved from: http://www.parks-parcs.ca/english/pdf/HbN-Colour.pdf

Canadian Parks Council (CPC) (2011). The economic impact of Canada's National, Provincial and Territorial Parks in 2009. Stella, ON: Outspan Group Inc.

CBC News. (2012, January 15). *Parks Canada targets large cities as visits decline: Agency plans to focus on Montreal, Toronto and Vancouver*. CBC News Canada.

CBC News. (2012, October 1). *Province gave no warnings of park closures: mayor.* CBC News Canada.

Churchill, Gilbert A. 1979. A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research, 16*(1), 64-73.

Cohen, D.A., McKenzie, T.L., Sehgal, A., Williamson, S., Golinelli, D., & Lurie, N. (2007). Contribution of public parks to physical activity. *American Journal of Public Health, 97*(3), 509-514.

Council on Sports Medicine and Fitness and Council on School Health (2006). Active healthy living: Prevention of childhood obesity through increased physical activity. *Pediatrics, 117*(5), 1834-1842.

Crawford, D. W., & Godbey, G. (1987). Reconceptualizing barriers to family leisure. *Leisure Sciences, 9*(2), 119-127.

Crawford, D. W., Jackson, E. L., & Godbey, G. (1991). A hierarchical model of leisure constraints. *Leisure Sciences, 13*(4), 309-320.

Crompton, J. L., & Lamb, C. W. (1986). *Marketing government and social services*. New York: Wiley.

Crosby, L.A., & Taylor, J.R. (1983). Psychological commitment and its effects on post-decision evaluation and preference stability among voters. *Journal of Consumer Research, 9*, 413-431.

Cypress Hills (2014). *Cypress Hills: Interprovincial park.* Retrieved from: http://www.cypresshills.com/index.php/alberta/about-cypress-hills-alberta

Dale, A., Arber, S., & Procter, M. (1988). *Doing secondary analysis.* London: Unwin Hyman Ltd.

Dawson, J., Havitz, M., & Scott, D. (2011). Behavioural adaptation of alpine skiers to climate change: Examining activity involvement and place loyalty. *Journal of Travel and Tourism Marketing, 28*(4), 388-404.

Day, G. S. (1970). *Buyer attitudes and brand choice behavior*. New York: Free Press.

Dearden, P., & Rollins, R. (Eds.). (2009). *Parks and protected areas in Canada, planning and management (3rd Ed.)*. Don Mills, ON: Oxford University Press.

Department for Education and Skills. (2003). *Every child matters.* London, United Kingdom: DFES.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, *55*(1), 34.

Driver, B. L. (1983). *Master list of items for Recreation Experience Preference scales and domains.* USDA Forest Service. Fort Collins, United States of America.

Drumm, A. (2007). Tourism-based revenue generation for conservation. In R. Bushell & P. F. J. Eagles (Eds.), *Tourism and protected areas: Benefits beyond boundaries* (pp. 191–209).

Wallingford, UK: Cabi.

Eagles, P. F. J. (2001). International trends in park tourism. *EUROPARC 2001 Conference*, October, 3-7.

Eagles, P. F. (2004). Trends affecting tourism in protected areas. *Policies, Methods and Tools for Visitor management–Proceedings of the Second International Conference on Monitoring and Management of Visitor Flows in Recreational and Protected Areas.* Retrieved from: http://www.metsantutkimuslaitos.fi/julkaisut/workingpapers/2004/mwp002-03.pdf

Eagles, P.F.J. (2014). Fiscal implications of moving to tourism finance for parks: Ontario Provincial Parks. *Managing Leisure, 19*(1), 1-17.

Eagles, P. J. F., McLean, D., & Stabler, M. (2000). Estimating the tourism volume and value in protected areas in Canada and the USA. *George Wright Forum, 17*(3), 62-76.

Eagles, P. F. J., McCool, S. F., & Haynes, C.D. (2002). Sustainable tourism in protected area: Guidelines for planning and management. *World Conservation Union*.

Environmental Commissioner of Ontario (ECO). (2007*). Doing less with less: How shortfalls in budget, staffing, and in-house expertise are hampering the effectiveness of MOE and MNR.* Toronto, ON: Author.

Environmental Commissioner of Ontario (ECO). (2011). *Engaging solutions: Annual report 2010/2011*. Toronto, ON: Author.

Epp, J. (1986). Achieving health for all a framework for health promotion. *Health Promotion International, 1*(4), 419-428.

Floyd, M.F. (1999). Race, ethnicity and use of the National Park System. *Social Sciences Research Review, 1*(2), 1-23.

Ginsburg, K. R. (2007). The importance of play in promoting healthy child development and

maintaining strong parent-child bonds. *Pediatrics*, *119*(1), 182-191.

Godbey, G., Roy, M., Payne, L., & Orsega-Smith, E. (1998). The relation between health and use of local parks. *National Recreation Foundation.* Bloomington, IN.

Godbey, G., & Mowen, A. (2010). *The benefits of physical activity provided by park and recreation services: The scientific evidence.* National Recreation and Park Association.

Gordon, C., Gaitz, C. M., & Scott, J. (1976). Leisure and lives: Personal expressivity across the life span. In R. H. Binstock & E. Shanas (Eds.), *Handbook of aging and the social sciences* (pp. 310-341). New York: Van Nostrand Reinhold.

Government of Alberta. (2012). *Kananaskis Country provincial recreation areas and Bragg Creek Provincial Park management plan*. Retrieved from: http://www.albertaparks.ca/media/447248/kcpraandbcppmgmtplan.pdf

Gurung, H. B. (2010). Trends in protected areas. CRC for Sustainable Tourism.

Hawthorn, D., Kirik, M., & Eagles, P. F. J. (2002). Evaluating management effectiveness of parks and park systems: A proposed methodology. In *Managing Protected Areas in a Changing World: Proceedings of the Fourth International Conference on Science and Management of Protected Areas* (pp. 414-430). Wolfville, Nova Scotia: Science and Management of Protected Areas Association.

Hayes, A. F., Preacher, K. J., & Myers, T. A. (2011). Mediation and the estimation of indirect effects in political communications research. In E. P. Bucy & R.L. Holbert (Eds.), *The sourcebook for political communication research: Methods, measures, and analytical techniques* (pp. 434-465). New York: Routledge.

Henderson, K., & Bialeschki, D. (1991). A sense of entitlement to leisure as constraint and empowerment for women. *Leisure Sciences, 12*, 51-65.

Hettler, B. (1980). Wellness promotion on a university campus: Family and community health. *Journal of Health Promotion and Maintenance,* 3, 77-95.

Ho, C.H., Payne, L., Orsega-Smith, E., & Godbey, G. (2003). Parks, recreation and public health: The benefits are endless. *Parks & Recreation, 38*(4), 18-26.

Howard, P., & Jones, D. (2000). For the love of fur and feathers: Wildlife feeding in urban settings in South-East Queensland preliminary findings. *Nathan: Griffin University*, 1-8.

Hudson, S. (2000). The segmentation of potential tourists: Constraint differences between men and women. *Journal of Travel Research, 38*(4), 363-368.

Hull, R.B., & Michael, S.E. (1995). Nature-based recreation, mood change, and stress restoration. *Leisure Sciences, 17*, 1-14.

Iso-Ahola, S. E., Jackson, E., & Dunn, E. (1994). Starting, ceasing, and replacing leisure activities over the life span. *Journal of Leisure Research, 26*, 227-249.

Iwasaki, Y., & Havitz, M.E. (2004). Examining relationships between leisure involvement, psychological commitment and loyalty to a recreation agency. *Journal of Leisure Research, 36*(1), 45-72.

Jackson, E. L. (1990). Variations in the desire to begin a leisure activity: Evidence of antecedent constraints? *Journal of Leisure Research, 22*(1), 55-70.

Jacoby, J., & Kyner, D.B. (1973). Brand loyalty vs. repeat purchasing behavior. *Journal of Marketing Research,* 1-9.

Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge, United Kingdom: Cambridge University Press.

Kelly, J. (1980). Outdoor recreation participation: A comparative analysis. *Leisure Sciences, 3*, 129-154.

Keyes, C. L. M. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behaviour,* 207-222.

Krosnick, J.A., & Alwin, D.F. (1989). Aging and susceptibility to attitude change. *Journal of Personality and Psychology, 57*(3), 416-425.

Kulthreshtha, S.N., Lac, S., Johnston, M., & Kinar, C. (2000). Carbon sequestration in protected areas of Canada: An economic valuation. *Canadian Parks Council*. Retrieved from: http://www.parks-parcs.ca/english/pdf/549.pdf

Kuo, F.E., & Taylor, A.F. (2004). A potential natural treatment for attention-deficit/hyperactivity disorder: Evidence from a national study. *The American Journal of Public Health, 94(9),* 1580-86.

Lawton, M. (1985). Activities and leisure. *Annual Review of Gerontology and Geriatrics, 5,* 127-164.

Lee, A.C.K., & Maheswaran, R. (2011). The health benefits of green spaces: A review of the evidence. *Journal of Public Health, 33*(2), 212-222.

Lee, J., Scott, D., & Floyd, M.F. (2001). Structural inequalities in outdoor recreation participation: A multiple hierarchy stratification perspective. *Journal of Leisure Research, 33*(4), 427-449.

Lemieux, C. J., Eagles, P. F. J., Slocombe, D. S., Doherty, S. T., Elliott, S. J., & Mock, S. E. (2012). Human health and well-being motivations and benefits associated with protected area experiences: An opportunity for transforming policy and management in Canada. *PARKS, 18*(1), 71.

Lemieux, C. J., Doherty, S. T., Eagles, P. F. J., Gould, J., Hvenegaard, G.T., Nisbet, E.L., & Groulx, M.W. (2014). *Healthy outside – healthy inside: The Human health and well-*

being benefits of Alberta's protected areas – a report submitted to the Government of Alberta – Department of Environment and Sustainable Resource Development.

Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder*. Chapel Hill, NC: Algonquin Books.

Lovasi, G.S., Quinn, J.W., Neckerman, K.M., Perzanowski, M.S., & Rundle, A. (2008). Children living in areas with more street trees have lower prevalence of asthma. *Journal of Epidemiology and Community Health, 62(7),* 647-649.

Lucas, R. (1990). Wilderness use and users: Trends and projections. In J.C. Hendee, G. H. Stankley, & R. C. Lucas (Eds.), *Wilderness management* (pp. 356-390). Golden, Colorado: North American Press.

Madrigal, R. (1990). *An investigation of spouses' relative influence as it pertains to vacation decision making*. Unpublished doctoral dissertation, University of Oregon, Eugene.

Maller, C., Townsend, M., Pryor, A., Brown, P., & St. Leger, L. (2005). Healthy nature healthy people: 'Contact with nature' as an upstream health promotion intervention for populations. *Health Promotion International, 21(1),* 45-54.

Maller, C., Townsend, M., Brown, P., St Leger, L., Henderson-Wilson, C., Pryor, A., Prosser, L., & Moore, M. (2008*). Healthy parks, healthy people: The health benefits of contact with nature in a park context - a review of current literature (2nd Ed.).* Melbourne, Australia: Deakin University, Parks Victoria.

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

McIlroy, A. (2012, June 25). 'Parks Canada is being gutted,' former deputy minister warns. *The Globe and Mail*.

Meeker, J. (1991). Red, white, and black in the national park. In G. E. Machlis & D. R. Field (Eds.). *On interpretation: Sociology for interpreters of natural resources and cultural history* (pp. 196-205). Corvallis, OR: Oregon State University.

Miller, G., & Foster, L. T. (2010). *Critical synthesis of wellness literature*. University of Victoria. Victoria, Canada.

More, T. A., & Payne, B. R. (1978). Affective responses to natural areas near cities. *Journal of Leisure Research, 10*(1), 7-12.

Moyle, B.D., Weiler, B., & Moore, S.A. (2014). Benefits that matter to managers: An exploratory study of three national park management agencies. *Managing Leisure*, 1-20.

National Environmental Education Foundation (NEEF). (2010). *Fact sheet: Children's health and nature*. Retrieved from: http://www.education.com/reference/article/fact-sheet-childrens-health-nature

Nonato, S.D., & Quan, D. (2012, April 30). Parks Canada hit hard as nearly 4,000 public-sector workers receive job notices. *National Post*.

Nunnaly, J. (1978). *Psychometric theory*. New York: McGraw-Hill.

Oregon State University. (2010). Parks and recreation programs declining as obesity, health concerns rise. *ScienceDaily.* Retrieved from: http://oregonstate.edu/ua/ncs/archives/2010/jan/parks-and-recreation-programs-declining-obesity-health-concerns-rise

Parks Canada. (2012a). *Parks Canada attendance*. Retrieved from: http://www.pc.gc.ca/eng/docs/pc/attend/table1.aspx

Parks Canada. (2012b). *Reports: 2011-2012 Parks Canada agency performance report*. Retrieved from:

http://www.pc.gc.ca/eng/docs/pc/rpts/rmr-dpr/03312012/Section01/sdd-sds.aspx

Parks Canada. (2013a). *Activities*. Retrieved from: http://www.pc.gc.ca/pn-np/ab/banff/activ.aspx

Parks Canada. (2013b). *Ecological Integrity.* Retrieved from: http://www.pc.gc.ca/progs/np-pn/ie-ei.aspx

Petty, R.E., & Brinol, P. (2010). Attitude change. *Advanced social psychology: The state of the science*, 217-259.

Pritchard, M.P., Havitz, M.E., & Howard, D.R. (1999). Analyzing the commitment-loyalty link in service contexts. *Journal of the Academy of Marketing Science, 27*(3), 333-348.

Raymore, L. A., G. C. Godbey, & Crawford, D. W. (1994). "Self-esteem, gender, and socioeconomic status: Their relation to perception of constraints on leisure among adolescents." *Journal of Leisure Research, 26* (2): 99-118.

Relph, E. (1976). *Place and Placelessness*. London: Pion.

Rose, K.A., Morgan, I.G., Ip, J., Kifley, A., Huynh, S., Smith, W., & Mitchell, P. (2008). Outdoor activity reduces the prevalence of myopia in children. *Ophthalmology, 115(8).*

Rosenberger, R.S., Bergerson, T.R., & Kline, J.D. (2009). Macro-linkages between health and outdoor recreation: The role of parks and recreation providers. *Journal of Park and Recreation Administration, 27(3),* 8-20.

Salancik, G. (1977). *Commitment and the control of organizational behaviour and belief.* Staw, B.M., & Salancik, G.R. (Eds.). Chicago: St. Clair.

Sasidharan, V. (2001). *The urban recreation experience: An examination of multicultural differences in park and forest visitation characteristics.* Unpublished doctoral dissertation, The Pennsylvania State University, University Park, PA.

ScienceDaily. (2008). Researchers link green spaces to Children's Health. *Children & Nature Network.* Retrieved from: http://www.childrenandnature.org/news/detail/researchers_link_green_spaces_to_childrens_health/

Scott, D. (1997). Exploring time patterns in people's use of a metropolitan park district. *Leisure Sciences, 19*, 159-174.

Scott, D., & Jackson, E.L. (1996). Factors that limit strategies that might encourage people's use of public parks. *Journal of Park and Recreation Administration, 14*(1), 1-17.

Scott, D., & Munson, W. (1994). Perceived constraints to park usage among individuals with low incomes. *Journal of Park and Recreation Administration, 12*(4), 79-96.

Shaw, S. (1999). Gender and leisure. In E. Jackson and T. Burton (Eds.), *Leisure studies: Prospects for the twenty-first century* (pp. 271-282), State College, PA: Venture Publishing, Inc.

Solop, F.I., Hagen, K.K., & Ostergen, D. (2003). *Ethnic and racial diversity of National Park System visitors and non-visitors: Technical report*. Flagstaff, AZ: Social Research Laboratory, Northern Arizona University.

Taylor, A.F., Kuo, F.E., & Sullivan, W.C. (2001). Coping with ADD: The surprising connection to green play settings. *Environment and Behaviour, 33(1),* 54-77.

Tennessen, C. M., & Cimprich, B. (1995). Views to nature: Effects on attention. *Journal of Environmental Psychology, 15*(1), 77-85.

The Praxis Group. (2008). Survey of Albertan's priorities for provincial parks. *Alberta Parks, Tourism, and Recreation.* Retrieved from: http://www.albertaparks.ca/media/3239/Praxis%20Report%20Final.pdf

Thompson, C.W., & Aspinall, P.A. (2011). Natural environments and their impact on activity, health, and quality of life. *Applied Psychology: Health and Well-Being, 3*(3), 230-260.

Tinsley, H.E.A., Tinsley, D.J., & Croskeys, C.E. (2002). Park usage, social melieu, and psychological benefits of park use reported by older urban park users from four ethnic groups. *Leisure Sciences, 24*, 199-218.

Travel Alberta. (2011). Report, our year in review 2011-2012. Retrieved from http://industry.travelalberta.com/About%20Us/~/media/Industry/Attachments/About%20Us/Corporate%20Publications/travelalberta2012annualreport.pdf

Tribe, A., & Brown, P. R. (2000). The role of wildlife rescue groups in the care and rehabilitation of Australian fauna. *Human Dimensions of Wildlife, 5*(2), 69-85.

United Nations Educational Scientific and Cultural Organization. (2001). *Declaration on cultural diversity*. Paris, France: UNESCO.

Veal, A.J. (2011). Research Methods for leisure and tourism: A practical guide (4th ed.). Harlow, England: Pearson Education Limited.

Weber, D., & Anderson, D. (2010). Contact with nature: Recreation experience preferences in Australian parks. *Annals of Leisure Research, 13*(1-2), 46-69.

Wells, N.M., & Evans, G.W. (2003). Nearby nature: a buffer of life stress among rural children. *Environment and Behaviour, 35(3),* 311-330.

Westerhof, G. J., & Barrett, A. E. (2005). Age identity and subjective well-being: A comparison of the United States and Germany. *Journal of Gerontology: Social Sciences, 60B,* 129–136.

White, T. H. (1975). Relative importance of education and income as predictors in outdoor recreation participation. *Journal of Leisure Research, 7*(3), 191-199.

Wistowsky, W. J. (2008). Canada's national parks: What are they worth to Canadians and why? ProQuest.

World Database on Protected Areas (WDPA). (2011). *Regional and global stats for 1990-2010 from the 2011 MDG analysis.* Retrieved from: http://www.wdpa.org/Statistics.aspx

World Health Organization. (2005). *Ecosystems and human well-being: Health synthesis*. Geneva, Switzerland: WHO.

Yin, R.K. (2009). *Case study research: Design and methods* (4th ed.). Thousand Oaks, CA: Sage.

Yin, R.K. (2012). A (very) brief refresher on the case study method. In Yin, R. K. (Ed.), *Applications of case study research* (3rd Ed.) (pp. 3-20). Thousand Oaks, CA: Sage.

APPENDIX – A

Welcome to the Alberta "Healthy Outside – Healthy Inside" Survey!

Dear Visitor,

The Department of Recreation and Leisure Studies at the University of Waterloo is conducting a study focusing on the health and well-being benefits of parks in Alberta.

Please consider taking a few moments of your time to fill out this survey. **Your opinion is very important to us because it will help us in our efforts to improve our understanding of what activities people participate in during their visit and how this impacts their health and well- being.**

The survey is expected to take about **15 minutes** of your time and can be completed using either an Apple iPad or paper and pen. You may omit any question you prefer not to answer by leaving it blank and you may withdraw your participation by not submitting your responses.

By filling out this survey you are eligible to **win one of five $100 gift certificates to an outdoor equipment retailer of your choice**. Participation in this survey is voluntary and **anonymous**. You are not asked for your name or any identifying information. All information you provide will be considered confidential and responses to the survey questions will be summarized. Survey responses will be kept for a period of two years on a password protected computer at the University of Waterloo then erased. There are no known or anticipated risks to participation in this study.

If you have any questions about this study, or would like additional information to assist you in reaching a decision about participation, please feel free to speak with the researcher(s) here today. If at a later time you have questions about the study please contact Professor Paul Eagles at 519- 888-4567 ext. 32716 or eagles@uwaterloo.ca. If you are interested in viewing the results of this survey, they will be posted on October 30, 2013 at http://www.ahs.uwaterloo.ca/~eagles/ .

This study has been reviewed and received ethics clearance through the Office of Research Ethics at the University of Waterloo. However, the final decision about participation is yours. Should you have any comments or concerns resulting from your participation in this study, please contact Dr. Maureen Nummelin in the Office of Research Ethics at 519-888-4567 Ext. 36005 or maurenn.nummelin@uwaterloo.ca.

Your opinions are very much appreciated and necessary to the success of this project! If you wish to participate in the survey, please begin the survey!

SECTION 1: YOUR ACTIVITIES IN THE PARK

1. Please identify the activities that you participated in during your visit to this park. Please only identify those activities that you did for at least 10 minutes at a time.

☐ Resting / relaxing
☐ Swimming / wading / beach activities
☐ Motorboating / waterskiing / jet skiing
☐ Driving for sightseeing / pleasure
☐ Hiking - self-guided walks
☐ Hiking - guided walks
☐ Canoeing / Kayaking
☐ Sailing / windsurfing
☐ Bicycling
☐ Fishing
☐ Nature study - wildlife (e.g., looking for wildlife, birdwatching) ☐ Nature study - plants (e.g., identifying wildflowers, trees)
☐ Visiting historical / cultural features
☐ Attending visitor education / interpretive programs
☐ Using playground facilities
☐ Visiting natural features / lookouts
☐ Special events (e.g., festival, race)
☐ Camping
☐ Reading
☐ Cooking
☐ Campfire
☐ Playing music (with a musical instrument)
☐ Listening to music
☐ Watching television / playing video games
☐ Walking
☐ Socializing
☐ Photographing
☐ Horseback riding
☐ Recreation and leisure activities outside the park

☐ Other: _____ ☐ Other: _____

SECTION 2: YOUR MOTIVATIONS AND OUTCOMES

1. How important did each of the following health and well-being-related reasons play in your decision to visit this park? Please check one box for each reason that best represents your feeling on the scale.

	Not At All Important	Not Important	Somewhat Not Important	Neutral	Somewhat Important	Important	Very Important
Physical Well-being (for physical activity like hiking, swimming, canoeing, etc.)	☐	☐	☐	☐	☐	☐	☐
Psychological/Emotional Well-being (for restoration from mental fatigue, relaxation, solitude and quiet)	☐	☐	☐	☐	☐	☐	☐
Social Well-being (for opportunity for increased social interaction/ bonding with family, friends, and others)	☐	☐	☐	☐	☐	☐	☐
Intellectual Well-being (for opportunity to engage in creative and stimulating activities)	☐	☐	☐	☐	☐	☐	☐
Spiritual Well-being (to connect with nature, to be inspired by nature, to seek meaning and purpose of life)	☐	☐	☐	☐	☐	☐	☐
Ecological Well-being (to experience the natural environment, sense of ecological citizenship)	☐	☐	☐	☐	☐	☐	☐
Cultural Well-being (to experience cultural and historical heritage)	☐	☐	☐	☐	☐	☐	☐
Environmental Well-being (to experience a sense of place, the outdoor environment, or desirable weather conditions)	☐	☐	☐	☐	☐	☐	☐
Occupational Well-being (to improve my ability to work after my visit)	☐	☐	☐	☐	☐	☐	☐
Economic Well-being (to support local economy)	☐	☐	☐	☐	☐	☐	☐
Financial Well-being (relatively inexpensive recreational and leisure activity)	☐	☐	☐	☐	☐	☐	☐

2. To what extent do you feel your visit to this park has impacted your general state of health and well-being in each of the following ways? For each row item, check one box that best represents your feelings on the scale.

	Greatly Worsened	Worsened	Somewhat Worsened	Neutral	Somewhat Improved	Improved	Greatly Improved
Physical Well-being (from physical activity like hiking, swimming, canoeing, etc.)	☐	☐	☐	☐	☐	☐	☐
Psychological/Emotional Well-being (from restoration from mental fatigue, relaxation, solitude and quiet)	☐	☐	☐	☐	☐	☐	☐
Social Well-being (from increased social interaction/bonding with family, friends, and others)	☐	☐	☐	☐	☐	☐	☐
Intellectual Well-being (from engaging in creative and stimulating activities)	☐	☐	☐	☐	☐	☐	☐
Spiritual Well-being (from connecting with nature, being inspired by nature, seeking meaning and purpose of life)	☐	☐	☐	☐	☐	☐	☐
Ecological Well-being (from experiencing the natural environment, from sense of ecological citizenship)	☐	☐	☐	☐	☐	☐	☐
Cultural Well-being (from experiencing cultural and historical heritage)	☐	☐	☐	☐	☐	☐	☐
Environmental Well-being (from experiencing the outdoors, sense of place, desirable weather conditions)	☐	☐	☐	☐	☐	☐	☐
Occupational Well-being (by improving my ability to work following my visit)	☐	☐	☐	☐	☐	☐	☐
Economic Well-being (by supporting local economy)	☐	☐	☐	☐	☐	☐	☐
Financial Well-being (by selecting a relatively inexpensive recreation and leisure activity)	☐	☐	☐	☐	☐	☐	☐

SECTION 3: PHYSICAL HEALTH & WELL-BEING

1. In general, would you say your physical health is:

- ☐ Excellent
- ☐ Very Good
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ Don't Know

2. In general, would you say your mental health is:

- ☐ Excellent
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ Don't Know

3. Thinking about the amount of stress in your life over the 7 days prior to your visit, would you say that most days were:

- ☐ Not at all stressful
- ☐ Not very stressful
- ☐ A bit stressful
- ☐ Quite a bit stressful
- ☐ Extremely stressful
- ☐ Can't recall

4. Below are five statements with which you may agree or disagree. Using the scale below, indicate your level of agreement with each item.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree
In most ways my life is close to my ideal	☐	☐	☐	☐	☐	☐	☐
The conditions of my life are excellent	☐	☐	☐	☐	☐	☐	☐
I am satisfied with life	☐	☐	☐	☐	☐	☐	☐
So far I have gotten the important things I want in life	☐	☐	☐	☐	☐	☐	☐
If I could live my life over, I would change almost nothing	☐	☐	☐	☐	☐	☐	☐

SECTION 4: ABOUT YOUR VISIT

1. What is the total length of your visit to this park?

☐ One day or less

☐ > 1 day _____ # of days

2. Is this your first visit to this park? ☐ Yes ☐ No

If YES, please skip to Question 3.

If NO, how many times have you visited this park in the past 12 months (including this visit)?

_____

In what year did you first visit this park? _____

3. How many parks have you visited personally in the past year? For this question, we would like you to consider parks in the broadest context that includes urban/suburban parks, municipal parks, national parks, provincial parks, etc. _____

4. How many parks have you visited personally in the past 5 years? For this question, we would like you to consider parks in the broadest context that includes urban/suburban parks, municipal parks, national parks, provincial parks, etc. _____

SECTION 5: HEALTH AND WELL-BEING OF CHILDREN

1. Did any children 17 years of age and younger accompany you on this visit?

☐ Yes, # of children accompanying you: _____ ☐ No

2. To what extent do you agree that visiting parks improve the following characteristics of a child's health and well-being?

	Strongly Disagree	Disagree	Slightly Disagree	Neutral	Slightly Agree	Agree	Strongly Agree
Physical development	☐	☐	☐	☐	☐	☐	☐
Social knowledge and competence	☐	☐	☐	☐	☐	☐	☐
Cognitive learning and language (e.g., concentration, observation and creativity)	☐	☐	☐	☐	☐	☐	☐
Anxiety issues	☐	☐	☐	☐	☐	☐	☐
Hyperactivity/Inattention issues	☐	☐	☐	☐	☐	☐	☐
Personal-social behavior (e.g., self-discipline, social interaction)	☐	☐	☐	☐	☐	☐	☐
Respiratory issues	☐	☐	☐	☐	☐	☐	☐

SECTION 6: YOUR COMMITMENT TO PARKS

1. To what extent do you agree with the following statements about parks? For this question, we would like you to consider parks in the broadest context that includes urban/suburban parks, municipal parks, national parks, provincial parks, etc.

Please check one box along this 5-point scale for each statement. We apologize for the similarity between some statements in this section. It is important to ask similar questions in order to improve statistical reliability.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My preference to visit parks for leisure and recreation would not willingly change to an alternative leisure or recreation setting	☐	☐	☐	☐	☐
It would not be difficult to change my beliefs about parks to an alternative leisure or recreation setting	☐	☐	☐	☐	☐
To change my preference from visiting parks to other recreational and leisure settings would require major rethinking	☐	☐	☐	☐	☐
I prefer to visit parks because it makes me feel important	☐	☐	☐	☐	☐
I visit parks because its image comes closest to reflecting my lifestyle	☐	☐	☐	☐	☐
When I visit my preferred park it reflects the kind of person I am	☐	☐	☐	☐	☐
I really don't know much about parks	☐	☐	☐	☐	☐
I am knowledgeable about parks	☐	☐	☐	☐	☐
I consider myself to be educated on parks	☐	☐	☐	☐	☐
My decision to visit this park is my own decision, freely chosen from several alternatives	☐	☐	☐	☐	☐
I did not control the decision on whether to visit this park	☐	☐	☐	☐	☐
I am fully responsible for the decision to visit this park	☐	☐	☐	☐	☐

SECTION 7: ABOUT YOU

1. In what year were you born? _____

2. Please select your gender: ☐ Male ☐ Female

3. How tall are you? _____ ☐ Feet/inches ☐ Metres/centimetres

4. How much do you weigh? _____ ☐ Pounds ☐ Kilograms

5. What is the highest degree, certificate or diploma you have obtained?

- ☐ No certificate, diploma or degree
- ☐ Secondary (high) school diploma or certificate
- ☐ Registered apprenticeship or trades certificate or diploma
- ☐ College, CEGEP or other non-university certificate or diploma
- ☐ University certificate or diploma below the bachelor level
- ☐ University certificate or diploma or degree at bachelor's level
- ☐ University certificate or diploma or degree above bachelor's level

6. What is your employment status?

- ☐ Employed (work for pay or in self-employment)
- ☐ Unemployed (without paid work or without self-employment work, and available for work)
- ☐ Not in the labour force (students, homemakers, retired workers, seasonal workers in an 'off' season, long term illness or disability)

7. What is your postal code (or zip code)? _____

8. Please select your total household income from all sources before taxes in 2011?

- ☐ Less than $10,000
- ☐ $10,000 – $29,999
- ☐ $30,000 – $49,000
- ☐ $50,000 – $69,999
- ☐ $70,000 – $89,000
- ☐ $90,000 – $109,000
- ☐ $110,000 - $129,999
- ☐ $130,000 - $149,999
- ☐ $150,000 – $169,999
- ☐ $170,000 or more

This is the end of the survey!

Thank-you for your participation!

APPENDIX – B

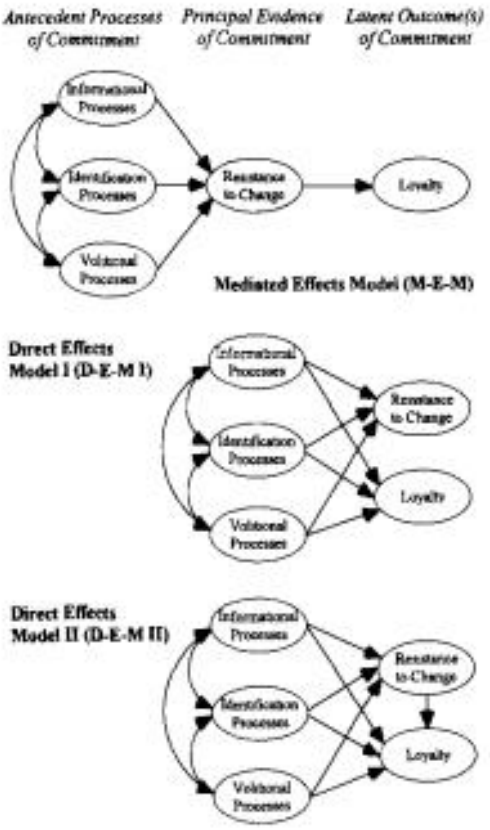
TABLE 1
Developing the Psychological Commitment Instrument:
Principal Axis Factoring Pattern Matrix for 16 Items (n = 391)

Initial Item Theme	*Factor 1*	*Factor 2*	*Factor 3*	*Factor 4*	*Communality*
Resistance to Change 1	*.63*	.01	−.04	.06	.49
Resistance to Change 2	*.64*	−.03	−.08	.04	.43
Resistance to Change 3	*.74*	.01	.02	−.01	.46
Resistance to Change 4	*.73*	.00	−.03	.10	.59
Volitional Choice 1	.07	*.68*	.10	−.01	.39
Volitional Choice 2	−.05	*.72*	−.11	−.04	.49
Volitional Choice 3	.23	*.57*	−.02	.05	.48
Volitional Choice 4	−.12	*.83*	−.07	.05	.55
Information Complexity 1	−.09	−.03	*−.78*	.11	.47
Information Complexity 2	.06	.07	*−.65*	−.02	.46
Information Complexity 3	−.01	.02	*−.81*	.01	.55
Information Complexity 4	.22	.02	*−.49*	−.10	.36
Position Involvement 1	−.02	.08	−.03	*.86*	.60
Position Involvement 2	.02	−.04	−.01	*.80*	.55
Position Involvement 3	.30	−.02	.00	*.47*	.43
Position Involvement 4	.53	.19	−.14	*.15*	.62
Eigenvalues	6.16	2.02	1.49	1.02	
% total variance	38.50	12.70	9.30	6.40	66.90

NOTE: Item/factor loadings are italicized.

APPENDIX – C

FIGURE 1
Competing Models of Commitment and Its Link With Loyalty



APPENDIX – D

TABLE 2
Analysis of Competing Structural Models

	M-E-M			*D-E-M I*			*D-E-M II*		
Path	*Airlines (n = 348)*	*Hotels (n = 333)*	*Combined (N = 681)*	*Airlines (n = 348)*	*Hotels (n = 333)*	*Combined (N = 681)*	*Airlines (n = 348)*	*Hotels (n = 333)*	*Combined (N = 681)*
Direct effects (βs)									
VC → RC	.15**	.14**	.15**	.14*	.14*	.14**	.14*	.13*	.14**
PI → RC	.66**	.70**	.64**	.72**	.72**	.69**	.68**	.68**	.65**
IC → RC	.23**	.11	.17**	.24**	.11	.17**	.24**	.13	.18**
RC → Loyalty	.72**	.56**	.59**	.	.	.	.81**	.49**	.78**
VC → Loyalty	.	.	.	.17**	.11*	.14**	.05	.04	.03
PI → Loyalty	.	.	.	.51**	.51**	.40**	−.11	.13	−.18*
IC → Loyalty	.	.	.	.16**	−.06	.04	−.04	−.10	−.09*
SMCs (R^2)									
RC	.63**	.67**	.60**	.70**	.70**	.67**	.64**	.66**	.62**
Loyalty	.52**	.31**	.35**	.38**	.27**	.22**	.55**	.31**	.40**
Model fit									
χ^2 (*df*)	147.7 (83)**	154.1 (83)**	242.6 (83)**	202.9 (81)**	167.2 (81)**	333.3 (81)**	145.0 (80)**	151.0(80)**	232.2 (80)**
GFI/AGFI	.95/.92	.94/.92	.96/.94	.93/.90	.94/.91	.94/.91	.95/.92	.94/.92	.96/.94
Rmr	.12	.14	.12	.12	.13	.11	.12	.14	.11
CFI / PNFI	.97/.74	.97/.74	.97/.75	.95/.71	.96/.72	.95/.72	.97/.72	.97/.72	.97/.73
CN_{05}	248	227	296	177	205	211	244	225	299

NOTE: VC = volitional choice; RC = resistance to change; PI = positional involvement; IC = informational complexity; GFI = goodness-of-fit index; AGFI = adjusted goodness-of-fit index; RMR = root mean residual; CFI = comparative fit index; PNFI = parsimonious normed fit index; CN = critical-N.
*$p < .05$. **$p < .01$.