University of Alberta

Predicting Chinese Canadian's visitation to local and distant parks

By

Yanan Lin

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of

Master of Arts

Faculty of Physical Education and Recreation

Examining Committee

Elizabeth Halpenny, Faculty of Physical Education and Recreation

Gordon Walker, Faculty of Physical Education and Recreation

PearlAnn Reichwein, Faculty of Physical Education and Recreation

Glen T. Hvenegaard, Augustana Campus

Abstract

This thesis examined factors affecting Chinese Canadians' visitation to local parks (parks within walking distance or a short drive) and distant parks (parks that required an overnight stay to enjoy). These factors included environment identity, leisure attitudes, attitudes towards parks, level of acculturation and marginality. It was anticipated that these factors would positively predict Chinese Canadians' visitation to parks. Convenience sampling of residents of three cities, Vancouver, Toronto and Edmonton was conducted. A self-completed questionnaire was used to collect data from Chinese Canadians. The average response rate was 42%; 624 questionnaires were input into the data file: 200 from Edmonton, 205 from Toronto, and 219 from Vancouver. Passive activities (i.e., resting, sightseeing and walking) characterized respondents' participation in park-based activities. Lack of time was the most frequently reported constraint to visiting parks. Respondents' suggestions for improving the park visitor experience included better and more accessible washrooms and parking lots, more entertainment facilities and more facilities for children.

Respondents reported high levels of environmental identity, positive attitudes towards parks, and positive attitudes towards leisure, as well as moderate levels of acculturation. Respondents had higher household incomes and education levels (used as an indicator of marginality) than the general Chinese Canadian population. Results from multiple regression analysis revealed that only environmental identity positively predicted visits to local and distant parks in the last 12 months.

Acknowledge

Table of Contents

List of Tables

Chapter 1:   Introduction

Canada's 2006 census documented that immigrants represented approximately one in five (19.8%) of the total population (around 32.5 million), the highest level in 75 years (Statistics Canada, 2006a; Statistics Canada, 2006b). In addition, Canada's immigrant population increased four times faster than its Canadian-born population. The increase rate of immigrant population was 13.6 % between 2001 and 2006 compared to that of 3.3% of Canada's Canadian-born population (Statistics Canada, 2006a; Statistics Canada, 2006b). Recent immigrants accounted for more than two-thirds (69.3%) of Canada's total population growth between 2001 and 2006, which was enumerated as 1.6 million by the Canada Census (Statistics Canada, 2006b). Immigration has been the major factor in Canada's population growth.

Recent immigrants have two important features. First, most recent immigrants (97.2%) are resident of a census metropolitan area or a census surrounding areas. Actually 68.9% of them chose to settle in the Canada's three largest census metropolitan areas — Toronto, Montréal and Vancouver (Statistics Canada, 2006b). Almost two-thirds (62.9%) of the total immigrants live in those three metropolitan areas (Statistics Canada, 2006b). Immigration plays an essential role in shaping the population of Canada's urban areas.

According to Statistics Canada's report, one in five Canadian residents could be a visible minority by 2017 (Statistics Canada, 2005a). In addition, the majority (58.3%) of those newcomers came from Asia and the proportion of Asia immigrants remained steady since 2001 (Statistics Canada, 2006a). Chinese are traditionally recognized as the largest visible minority group of Canada. By 2006, there were 1,216,600 Chinese immigrants in Canada, representing around 24.0% of the visible minority population and 3.9% of the total Canadian population (Statistics Canada, 2006c). The Canada Census indicated that the population of Chinese would be around 1.8 million by 2017 (Statistics Canada, 2005b). Diverse culture shared by ethnic minorities has a critical effect on service delivery in parks and recreation sectors (Li, Absher, Graefe, & Hsu, 2008). There is a necessity for parks agencies, as other public sectors, to target minority visitors to benefit individuals and communities as well as government agencies.

Parks Canada has limited understanding and knowledge of foreign visitors and recent immigrants historically (Parks Canada Agency, 2002, para.1, as cited by Bain, 2007, p.8). The situation is also true in other parks settings and recreation sectors. Ethnicity studies within the context of parks are also limited. In their study of recreation resource management in terms of increased racial and ethnic diversity, Dwyer and Gobster (1997) proposed that "the research information and management guidelines for particular racial and ethnic groups are lacking" (as cited by Gobster, 2002, p. 143). Gobster (2002) further indicated that the information is even less for Latino and Asian groups when he studied the visiting patterns of ethnic visitors in an urban park. Chavez (2001) also stated that Latin, Asia and American Indian minorities are less researched and the results of current research are not consistent. In addition, even the current research on this topic is limited in exploring ethnic members' desires and interests (Gobster, 2002) or investigating research questions particular to minority members (Floyd, 1999). Only a few research

studies have examined Chinese groups' leisure and recreation specifically (Deng, 2004; Deng & Walker, 2005; Hung, 2003; Tsai, 2000; Walker, Deng, & Dieser, 2001; Yu & Berryman, 1996).

Study Purpose

The main purpose of the research was to examine whether several factors can predict Chinese Canadians' visitation to local and distant parks. A model named "Chinese Canadians' parks visitation model" was created to illustrate the relationship between these factors (independent variables) and the visitation to local and distant parks (dependent variables). Recent visitation to parks in the last 12 months was used as the dependent variable of the model and the independent variables were: environment identity, leisure attitudes, acculturation level and marginality. It was anticipated that these factors would positively predict Chinese Canadians' visitation to parks.

Environmental identity is a relationship between individuals and the natural environment and an important part of identity (Clayton, 2003). A significant correlation was found between environment identity and environmental behaviours (Clayton, 2003; Winter & Chavez, 2008), which suggests the applicability of environment identity to predict individuals' behaviours toward nature and environment, and potentially an interest in visiting parks to interact with nature. Thus it was hypothesized that individuals who identify more intimately with nature and who construct their identity through their relationship with nature would be more regular visitors to local parks and vacation more frequently at distant parks.

Leisure attitudes can be classified into three components: a cognitive component which is "[k]nowledge and beliefs about leisure activities and their effects" (Ragheb & Tate, 1993, p. 62); an affective component of "liking, disliking and other feelings about them" (Ragheb & Tate, 1993, p.62); and a behavioural component which is the "past and current patterns of behaviour regarding such activities" (Ragheb & Tate, 1993, p.62). Several studies showed that leisure attitude is positively related to leisure participation, which can include park visitation; these include: Christensen and Yoesting, 1973; Neulinger and Raps, 1972; Ragheb, 1980; Ragheb and Tate, 1993. Therefore attitudes towards leisure were also hypothesized as a factor that would lead to increased visits to parks.

The investigation of the parks attitude is inspired by and based on Gómez's (2002, 2006) study. Gómez (2006) measured respondents' attitudes through their perceived benefits of visiting parks. The results supported the hypothesis that park attitudes are positively correlated to leisure visitation. Therefore the current study hypothesized that positive attitudes towards parks and protected areas were expected to be a positive predictor of visits to local parks and more distant protected areas.

Many researchers define acculturation as a process in which a minority group adopts or absorbs a dominant group's cultural values and ethnic identities and their original values, attitudes, behaviours, and customs become similar to those of majority groups (Gómez, 2002; Marin & Marin, 1991; Medoza, 1989; Orozco et al., 1993; Tsai, 2000; Yu &

Berryman, 1996). The general relationship between acculturation and recreation/leisure is that the ethnic member will have more similar recreation/leisure patterns as dominant members when he/she becomes more acculturated, and vice versa. Ethnic groups were found to visit parks less and prefer passive activities compared to White populations (Bain, 2007; Gobster, 2002; Thompson, 2007). Several other studies revealed that similar patterns can be found among Asians and Chinese populations in particular (Hung, 2003; Walker, Deng, & Dieser, 2001). Based on these observations, the study hypothesized that Chinese Canadians who are more acculturated to Canadian culture were anticipated to be more frequent visitors to local and distant parks.

Washburne (1978) first proposed a marginality hypothesis. It states that less participation of minority groups is due to their limited socioeconomic status. The study collected respondents' demographic characteristics, such as gender, age, education level and household income. Two of the demographic characteristics, education level and household income were utilized as indicators of marginality. The study hypothesized that Chinese Canadians with higher socioeconomic status were anticipated to be more frequent visitors to local and distant parks.

This study also explores the use patterns of Chinese Canadians in parks. Parks visitation patterns were measured in several different ways. The main measure of park visitation patterns was the amount of visitation. It was measured using two different measurements: one was the frequencies to visiting local parks and more distant parks and protected areas; the other was the portion of annual recreation and leisure time that was devoted to visiting local and distant parks. Parks visitation patterns were also measured by the respondents' participation in and preferences of different activities. In addition, constraints to visiting parks and suggestions for parks were collected.

Study Method

To make this study more applicable to all protected area managers and researchers, the researcher surveyed residents of three cities: Vancouver, Toronto and Edmonton. Toronto and Vancouver rank first and second respectively as residence areas for Chinese immigrants. Forty percent and 33% of Chinese immigrants reside in Toronto and Vancouver respectively. Additionally, Montreal, Calgary and Edmonton are the other three largest residence areas of Chinese immigrants, which account for 5%, 5% and 4% of Chinese immigrants respectively (Statistics Canada, 2005). Since these proportions are very close and the researcher was located at Edmonton, Edmonton was chosen as the third sampling city. A sample of 200 respondents from each city was determined to be adequate for multiple regression analysis, and also for potential statistical comparison analysis between cities.

The initial sampling method was telephone sampling which featured a stratified systematic sampling method. However, because the response rate was much lower than expected, the sampling method was changed to convenience sampling, which is simpler, faster and more cost-effective (Ferber, 1977). A three page, double-sided, legal sized questionnaire was presented to participants during the sampling process.

Significance of the study

Li and his colleagues (2008) indicated that leisure research needs a theoretical foundation regarding service delivery for diverse customers in parks and recreation studies. This study utilized a recreation benefits model proposed by a US researcher who specializes in studying American minorities' recreation patterns (Gómez, 2006).

The modification and testing of Gómez's model to explain Chinese leisure behaviour will provide important insights into scholars' theoretical understanding of how Chinese identity, culture, and attitudes affect park visitation patterns. This is the first ever application of Gómez's model to a Chinese population. Moreover, Gómez (2006) emphasized the significance of replicated studies to confirm the validity of previous conceptualizations and findings on different minority groups. By applying the model to a Chinese population, the study will also contribute to the testing of the model's validity and generalizability for different minority groups and advance a theoretical framework for research on ethnic recreation.

Additionally, previous studies have failed to achieve comprehensive understanding of Chinese populations because of their research methods or choice of sample sites (Bain, 2007; Gobster, 2002; Yu & Berryman, 1996; Tsai, 2000). An example of this is Deng's (2004) study that compared the similarities and differences of Chinese- and European-Canadians' attitudes toward national parks, the environment, and leisure. Deng (2004) suggested that future studies should be conducted in other cities to document a more diverse sample of Chinese Canadians. A more diverse sample would also enable further investigation of other subgroup differences (i.e., differences between Hong Kong, Taiwan, and Mainland Chinese). The research project will address this limitation through convenience sampling methods in multiple Canadian cities.

Finally, most research on Chinese minorities' leisure and recreation is focused on motivations, constraints or attitudes and investigates these jointly with acculturation. Few studies have examined the use patterns of Chinese minorities in parks or other protected areas, which is significant for planners and managers to gain practical understanding and knowledge of this group. Walker and Deng (2001) also proposed that the majority of ethnic studies of recreation have tended to only investigate visitation and participation rates; more information about trip characteristics should be collected in future research to gain a comprehensive understanding of Chinese group's travel and recreation patterns. The study aims to address this shortcoming by exploring both Chinese Canadians' past and present experiences in parks. The study also reviews literature written and published in Chinese to uncover the use patterns of Chinese in China; this will provide additional background for non-Chinese researchers and parks planners who are not fluent in Chinese.

This thesis includes five chapters. The following chapter will review literature that provides a theoretical and methodological foundation. Chapter 3 outlines research methods including selection of scales, questionnaire design, selection of sampling method, sampling sites and sizes. The data analysis process and research results are presented in Chapter 4. The final chapter, Chapter 5 discusses the results and compares them with existing studies, indicates the limitations of the study and proposes several suggestions

for future studies. Chapter 5 chapter also provides practical recommendations for parks managers.

Chapter 2:   Literature Review

Background

The following chapter describes the trends of immigrant population and visible minorities in Canada and also the characteristics of Chinese immigrants specifically. The description outlines background information essential to this research and also the issues related to research methodology (e.g., the selection of sampling sites). The public policies corresponding to Canada's increasingly diverse population is also discussed in this section.

Immigrant population[1] and visible minorities[2] in Canada

From Canada's Census report, the immigrant population was 6,186,950 in Canada in 2006. Immigrants represented approximately one in five (19.8%) of the total population (around 32.5 million), the highest level in 75 years (Statistics Canada, 2006a; Statistics Canada, 2006b). This proportion ranked second among the Western countries that are major immigrant-receiving countries, only Australia surpassed Canada (Statistics Canada, 2006b).

In addition, Canada's immigrant population increased four times faster than its Canadian-born population. The increase rate of Canada's immigrant population was 13.6 % between 2001 and 2006 compared to that of 3.3% of Canadian-born residents (Statistics Canada, 2006a; Statistics Canada, 2006b). Recent immigrants accounted for more than two-thirds (69.3%) of Canada's total population growth between 2001 and 2006, which is enumerated as 1.6 million by Canada Census (Statistics Canada, 2006b). Immigration has been the major factor in Canada's population growth.

Recent immigrants have two important features. First, most recent immigrants (97.2%) are residents of a census metropolitan area or their surrounding areas. Actually 68.9% of them chose to settle in the Canada's three largest census metropolitan areas — Toronto, Montréal and Vancouver. Almost two-thirds (62.9%) of the total immigrants lived in those three metropolitan areas. According to 2006 Census report, immigrants accounted for 45.7% of Toronto's population, 39.6% of Vancouver's and 20.6% of Montréal's respectively. In addition, there is an increased share of recent immigrants who chose to settle in smaller census metropolitan areas (i.e., Calgary, Ottawa - Gatineau, Edmonton, Winnipeg, Hamilton and London) (Statistics Canada, 2006a). Immigration played an essential role in shaping the population of urban areas, especially the three largest census metropolitan areas; also, as the Canadian Census indicated, "the effect of immigration is

---

1 Foreign-born population (also known as the immigrant population) is defined in the 2006 Census as persons who are, or who have been, landed immigrants in Canada. In this analysis, the foreign-born population does not include non-permanent residents, who are persons in Canada on employment or student authorizations, or are refugee claimants. The foreign-born population also excludes persons born outside Canada who are Canadian citizens by birth. The latter are considered part of the Canadian-born or non-immigrant population. From Immigration in Canada: A Portrait of the Foreign-born Population, 2006 Census: Definitions and note

http://www12.statcan.ca/english/census06/analysis/immcit/note.cfm

2 A visible minority is a person who is non-Caucasian in race or nonwhite in color (Statistics Canada, 2007b) .

mostly felt in Canada's largest urban centres and their surrounding municipalities" (Statistics Canada, 2006b).

A vast majority of recent immigrants (75.0%) are visible minorities (Statistics Canada, 2006c). According to the 2006 Census report, 16.2% of Canada's total population were visible minorities. Visible minorities grew five times faster than the total population. Visible minorities grew 27.2% between 2001 and 2006 compared to that of 5.4% of total population (Statistics Canada, 2006c). According to a Statistics Canada report, one in five Canadian residents could be a visible minority in 2017 (Statistics Canada, 2005). In addition, the majority (58.3%) of those newcomers came from Asia and the proportion of Asia immigrants remained steady since 2001 (Statistics Canada, 2006a).

Public policies corresponding to an increasingly diverse population

Demographic changes are not only evident in Canada, but also remarkable in other Western countries that are major immigrant-receiving countries. Benavides (2006) stated that the increasingly diverse population of the United States will "have a great impact on the social, political, and economic makeup of a number of local governments" and "all local government officials must demonstrate cultural sensitivity and awareness" corresponding to the increasingly diverse population (p. 279).

As the population of Canada has become increasingly diverse, the 1996 Multiculturalism program emphasized three objectives:

> social justice (building a fair and equitable society); civic participation (to ensuring that Canadians of all origins participate in the shaping of our communities and country); and identity (fostering a society that recognizes, respects and reflects a diversity of cultures so that people of all backgrounds feel a sense of belonging to Canada) (Dewing, 2009, p.8)

In detail, the program proposed to:

> Assist in the development of strategies to facilitate the full and active participation of ethnic, racial, religious and cultural communities in Canada; support collective community initiatives and responses to ethnic, racial, religious and cultural conflict and hate-motivated activities; improve the ability of public institutions to respond to ethnic, racial, religious and cultural diversity; encourage and assist in the development of inclusive policies, programs and practices within federal departments and agencies; and increase public awareness, understanding and public dialogue with respect to multiculturalism, racism and cultural diversity in Canada. (Dewing, 2009, p. 11)

All western countries will benefit from research that enables governments to address the needs of increasingly diverse populations. This study aims to contribute to this process.

Immigrant populations as an alternative market

In addition to meeting the desires of immigrants, there is also a potential profit to target the minority market. Recently the buying power[3] of some major minorities in United States (i.e., Hispanics, Asian) has increased more than twice as fast as the White population (Humphreys, 2004). Humphreys further indicated that the accelerated rise of minorities' buying power is directly driven by the growth of immigrant populations, and also better employment opportunities and higher levels of business ownership. With regard to the leisure sector, Hurd, Barcelona and Meldrum (2008) stated that targeting minority customers is reasonable and profitable since they must have a remarkable amount of discretionary income to spend on leisure services.

Parks Agency

There is a necessity for parks agencies, as well as other public sectors, to target minority visitors for both a local public service providers' benefit and for the potential benefits to individuals and communities. Additionally, diverse culture shared by ethnic minorities has a critical effect on service delivery in parks and recreation sectors (Li, Absher, Graefe, & Hsu, 2008). Parks Canada has recognized that the impacts of demographic changes on parks systems could become greater and that the present Charter Mandate did not correspond with Canada's changing population (Parks Canada Agency, 2002, as cited by Bain, 2007, p.8). The federal parks management agency acknowledged that it "must make it an overarching priority to engage and involve Canadians, and needs to do so with an understanding of how Canada and Canadians are changing" (Parks Canada Agency, 2004b, para.15, as cited by Bain, 2007, p.8) and there is a "need to ensure that its mandate is delivered more inclusively to ensure that Canadian parks are understood, valued and experienced more widely" (Parks Canada Agency, 2002, as cited by Bain, 2007, p.8).

However, regardless of these goals, Parks Canada has limited understanding and knowledge of foreign visitors and recent immigrants (Parks Canada Agency, 2002, para.1, as cited by Bain, 2007, p.8). The situation is also true in other parks settings and recreation sectors. In their study of recreation resource management in terms of increased racial and ethnic diversity, Dwyer and Gobster (1997) proposed that "the research information and management guidelines for particular racial and ethnic groups [is] lacking" (as cited by Gobster, 2002, p. 143). Gobster (2002) further indicated that the information is even less for Latino and Asian groups when he studied the visiting patterns of ethnic visitors in an urban park. Chavez (2001) also stated that Latin, Asia and American Indian minorities are less researched and the results of current research are not consistent. In addition, even the current research on this topic is limited in exploring ethnic members' desires and interests (Gobster, 2002) or investigating research questions particular to minority members (Floyd, 1999).

---

[3] Buying power is the total post tax, personal income of residents that is available to spend on goods and services, also called discretionary income (Humphreys, 2004).

General information of Chinese immigrants

Chinese first came to Canada for the "gold rush" in the middle of 1800s. Then a larger amount of Chinese immigrated to Canada as railway workers for Canadian Pacific Railway in the late 1800s, which made a significant contribution to linking Canada's west and east together (Statistics Canada, 2006b). After the building of railways, Chinese immigration was restricted by immigrant policies and only fewer than 30,000 of them immigrated during 1921 to 1960 (Statistics Canada, 2006b). It was in the late 1960s that Canada changed its immigrant policy that skills and educational attainments, instead of race or national origin, became the main selection criterion (Statistics Canada, 2006b). The change resulted in a vast increase of Chinese immigrants in the following decades. The Table 2.1 below illustrated the tendency of Chinese immigrants in the last century.

Table 2.1 *Chinese immigration to Canada 1901-2001*

	Number ('000s)	% of total population
1901	17	0.3
1911	28	0.4
1921	40	0.4
1931	47	0.4
1941	35	0.3
1951	33	0.2
1961	58	0.3
1971	119	0.6
1981	300	1.2
1991	626	2.3
2001	1,029	3.5

Source: Statistic Canada, 2006b.

By 2006, there were 1,216,600 Chinese residents in Canada, representing around 24.0% of the visible minority population and 3.9% of the total Canadian population (Statistics Canada, 2006c). Chinese are traditionally recognized as the largest visible minority group of Canada. According to the 2006 Canada Census, South Asians exceeded Chinese immigrants for the first time; however, their totals were very similar. The census enumerated 1,262,900 South Asians which accounted for 24.9% of the visible minority population and 4.0% of the total population of Canada (Statistics Canada, 2006c). Moreover, Chinese are more homogeneous than South Asians. Chinese are still the largest visible minority from a single country origin and they are still maintaining a substantial increase rate. The Canada Census report indicated that the population of Chinese would be around 1.8 million by 2017 (Statistics Canada, 2005). Hence this minority population is an important group for park and recreation providers to understand.

Features of Chinese immigrants

There are several features of Chinese immigrants worth mentioning: First nearly three-quarters of Chinese immigrants are residents of Canada's largest two metropolitan areas: Toronto and Vancouver (Statistics Canada, 2006b). The Figure 2   1 *Distribution (%) of Chinese Population by Residence*
below illustrates the geographic distribution of Chinese in the major metropolitan areas in Canada (Statistics Canada, 2006b).

Figure 2   1 *Distribution (%) of Chinese Population by Residence*
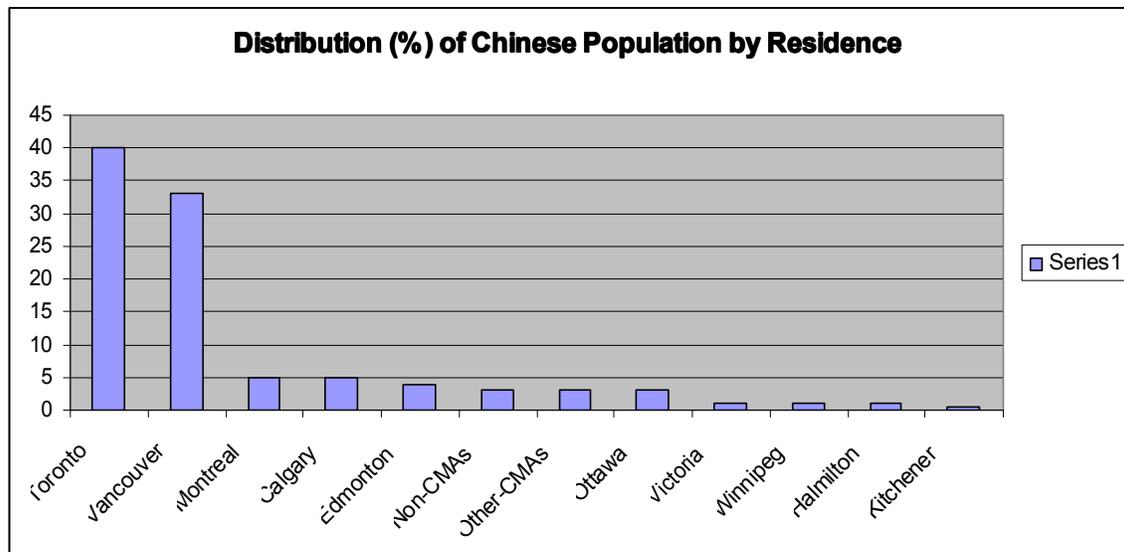
Source: Statistics Canada, 2006b.

In addition, Chinese make up a large proportion of the total population of Vancouver and Toronto (Statistics Canada, 2005b; Statistics Canada, 2006b). In 2006 they accounted for 18% of total population of Vancouver and 9% of Toronto respectively; in addition, they accounted for 6% of total population of Calgary, 5% of total population of Edmonton, 3% of the Ottawa's population (Statistics Canada, 2005). Another feature is that 25% of Chinese in Canada were native born. Chinese Canadians ranked number three among visible minorities in Canada after Japanese and Black minorities. Third, in terms of education level, Chinese are more likely to have a higher education level (Statistics Canada, 2005b): Around one-third (31%) of Chinese had a university degree, which is nearly twice that (18%) of the general Canadian population (Statistics Canada, 2005b). Finally, Chinese minorities were found to be highly family oriented; with 46% of them were living with a spouse in a census family[4]. This percentage is almost double that (25%) of general population in Canada (Statistics Canada, 2005).

This section discussed the trends and characteristics of general immigrant population in Canada. Corresponding to the increasingly diverse population in Canada, there is a necessity for public sectors as well as parks agencies to address the needs of minority

---

[4] A census family consists of either married or common-law couples living with or without children, and lone –parent families (Statistics Canada, 2006b).

populations. Chinese Canadians were selected as the target population since they are one of the largest visible minority groups of Canada and only a few research studies have examined Chinese Canadians' recreation specifically. Therefore the general information and features of Chinese immigrants were also discussed in this section, which provided background information about this group of people. A review of the literature has uncovered that only a few research studies have examined Chinese Canadians' recreation specifically. These studies are discussed next.

Studies

Chinese Recreation Study

Yu and Berryman (1996) investigated Chinese immigrant adolescents' recreation participation and its relationship with acculturation and self-esteem. Their sample was 117 grade 9 to 12 students which were randomly drawn from a high school in Manhattan which had the largest population of Chinese immigrant youth in New York City. The results show that the majority of interviewees are low acculturated and have similar lifestyle and recreation participation patterns as the Chinese dominant group. Watching Chinese TV programs, shows and movies, listening to Chinese music, chatting on the telephone, reading Chinese newspapers and magazines, and reading Chinese books, comics, etc. were the most popular recreation activities among those young immigrants. Yu and Berryman identified those activities as home/indoor oriented and "less organized, less expensive, less physically active, less skill oriented and more easily accessible than many other types of activities" (p. 255). Researchers propose that these observed behaviour patterns were consistent with traditional Chinese leisure/recreation lifestyles. Compared to Westerners, Yu and Berryman highlighted several different features of Chinese traditional leisure/recreation patterns: low or no physical efforts, less active oriented, less family engaged outdoor recreation, and less team activity. These characteristics were attributed to the less recognized value of recreation in Chinese traditional culture. Another characteristic of those activities that Chinese most frequently participated in was the importance of Chinese language. Yu and Berryman believed this feature showed the impact of ethnic culture and the high ethnic loyalty. These participants' value system and behaviour patterns formed and developed in their childhood was still comparably stable even though they immigrated as teenagers. The impact of ethnic culture and the high ethnic loyalty appeared to mainly account for their low participation constraints, which were summarized by Yu and Berryman as "language barrier; conservative both in attitudes and in behavior; little knowledge of Western culture; and cannot accept other group's behavior" (p.15). In addition, Yu and Berryman found a significant positive relationship between the levels of acculturation and recreation participation among Chinese minorities, which is also supported by other researcher's findings (Hung, 2002; Deng, Walker, & Swinnerton, 2005; etc.).

As Yu and Berryman (1996) stated, the most popular theory in recreation studies related to minorities (e.g., ethnic theory, marginality theory) have been developed from research of Black or Hispanic groups. Their work applied these theories to the Chinese minority group and showed its applicability. Moreover, Yu and Berryman stated the importance of ethnic culture and discussed the high ethnic loyalty of Chinese immigrant adolescents.

Further exploration of this topic might benefit the recreation studies on Chinese minorities. One of the limitations of their study was that the sample's size was small and the samples were only gained from a particular high school hence the generalization was low.

Tsai (2000) investigated the influences of acculturation and marginality status on first generation Chinese immigrants' perception of leisure constraints. The researcher got her 127 samples through snowball sampling from eight main Chinese clubs and organizations in Brisbane. A five-point Likert scale was used to test twenty-four constraint items in the questionnaire. The marginal status was investigated by education level and financial status. English proficiency, language use and cultural orientation were used to evaluate the acculturation level. The researcher categorized constraints as common constraints that are universal to both the majority group and the minority group and specific constraints that are particular to the minority group. The common constraints included access constraints and affective constraints, while the specific constraints contained social-cultural constraints. The results indicate a negative relationship between acculturation level and the level of constraints. Participants who had a higher level of acculturation often had a lower level of socio-cultural constraints, interpersonal constraints, and access constraints. Marginality status impacted one's affective and access constraints. Participants who were more marginal tended to have a higher level of affective and access constraints. The author stated that "feeling uncomfortable and insecure in public and social settings or experiencing difficulties in communicating and interacting with other leisure participants" might (p. 40) function as the particular reason for the specific constraints for immigrants. These reasons result primarily from culture differences (e.g., different languages and cultural orientations). Hence the researcher suggested that leisure service providers need to understand the diversity of the minority group and some ethno-specific leisure service might be offered to cater their special desires. She also highlighted that the accessibility of information is important for immigrants to further engage in leisure activities.

The snowball sampling method limits the generalizability of this study. The snowball sample was utilized because it was hard to gain a probability sample of first generation Chinese immigrants in Brisbane in Australia. This is because there is no list of first generation Chinese immigrants in Brisbane and the telephone directories do not contain any information about the immigrant information. An appropriate way is needed to resolve this problem and to conduct a probability sample for future research. The author also suggested that the discrimination theory should be considered in addition to marginality, ethnicity and acculturation theory. Moreover, the study only focused on the constraints, a broader subject should be explored in the future research.

Deng, Walker and Swinnerton (2005) compared Chinese–Canadians and Anglo–Canadians' attitudes toward appropriate use of national parks. They selected their samples from the 2002 Edmonton Telephone Directory through a stratified systematic random sample and mailed a self–completed questionnaire to participants. They measured their participants' attitude toward accommodation facilities, sport and recreation facilities, service facilities, and outdoor recreation activities in national parks.

Twenty-four items were used to evaluate the level of acculturation which included "social interactions, language preferences, ethnic identity, self–construal, gift–giving and holiday celebrations, and food and community preferences" (Deng, Walker, & Swinnerton, 2005, p. 32).

The results indicate that the two groups' attitudes differed in outlook toward accommodation and service facilities, non–consumptive activities, motorized activities and consumptive activities while participants held similar attitudes toward sport/recreation facilities and visitor facilities. Deng, Walker and Swinnerton (2005) suggested that the differences displayed by the Chinese group resulted primarily from their past experience in Chinese national parks and their traditional knowledge of China's national parks. For example, Chinese national parks are established based on their beauty of natural scenery and viewing scenery is the main function offered by them. Consequently viewing scenery is the most popular activity for Chinese visitors in national parks in China. This is also consistent with the preference for passive activities by the Chinese community. The same situation can be found with motorized activities (e.g., power boating) and non–consumptive activities (e.g., rock–climbing, picnicking, barbecuing, camping, mountain biking). Chinese participants rated motorized activities more appropriate than Canadians since these kind of activities are common in national parks in China while non–consumptive activities are uncommon in Chinese national parks. In addition, Deng, Walker and Swinnerton found that Chinese national parks are more crowded and Chinese tend to prefer less accommodation and service facilities in national parks than Canadians. Similar to other studies, Deng, Walker, and Swinnerton also found a significant relationship between acculturation and leisure patterns of the Chinese group. The more acculturated Chinese individuals tend to have similar leisure attitudes to Canadians. It is interesting that the results indicate that acculturation does not impact Chinese respondents' attitudes toward sport/recreation facilities, visitor facilities, and motorized activities. Hence the researchers proposed that this might be a proof of selective acculturation of Chinese group. Future research should further explore this proposition. Moreover, the researchers suggested that further studies are needed to investigate how acculturation and socio–demographic characteristics are connected to each other. Finally, they proposed the importance of researching the relationship between appropriate use attitudes and actual appropriate use behaviour.

Walker, Deng and Dieser (2001) did a comparative study about outdoor recreation motivation between Euro-North Americans and Chinese in a national park near Edmonton. They explored how ethnicity and acculturation affect an individual's motivation to engage in outdoor recreation. They used an intervening variable - the construct of self-construal in the study to investigate whether the ethnicity and acculturation factors impact motivations directly, indirectly (through self-construal), or both. They conducted a purposive sample and obtained 53 Chinese and 180 Canadian outdoor recreationists. The four-page self-administered questionnaire contained questions about trip characteristics, the importance of various park programs and services, socio-demographic characteristics, the ethnic background, the acculturation level, independent and interdependent self-construal and motivations. The results indicated that Chinese participants rated group membership and being humble/modest more important and

autonomy/independence motivation and nature/tranquility motivation as less important compared to Euro-North Americans. As for acculturation, Chinese with high acculturation level rated being humble/modest less important compared to the less acculturated individuals. In addition, Euro-North Americans were more independent while Chinese were more interdependent. Viewing wildlife and scenery was the most important activity for Chinese while camping and walking/hiking were the most important activity for Euro–North Americans. Moreover, Euro–North Americans tended to visit the park more frequently than Chinese participants did.

Previous ethnic studies of recreation have tended to only investigate the visitation and participation rates, study explored many other trip features. More details of trip characters should be explored in the future research to gain a comprehensive understanding of Chinese group's travel and recreation patterns. Walker, Deng and Dieser also introduced an intervening variable into their study to enhance theoretical frameworks in this area. The limitation of the study is that some measurements used for the first time in this study still need to be re-examined and refined. Moreover, the researchers neglected the sub-group difference of two target groups. They suggested that the future research can subdivide each group and did intra- or inter- group comparison studies (e.g., Hong Kong, Taiwanese, and Mainland Chinese for Chinese minorities). In addition, the researchers proposed the impacts of generational background and selective acculturation on the pursuit of leisure and recreation activities should be investigated in future (Walker, Deng & Dieser, 2001). The sub-group differences caused by acculturation processes (e.g., selective acculturation, acculturation speed, acculturation length and generation status) may be greater than sub-group differences caused by different origins (e.g., Hong Kong, Taiwanese, and Mainland Chinese).

Hung (2003) studied the under–participation of Chinese Canadians in wilderness–oriented parks and outdoor recreation activities in Greater Vancouver. He also explored how sub–culture accounted for the low participation and recreation attitudes and how acculturation affects change in participation. Due to limited existing research and the limited knowledge of this area, the researcher chose qualitative research methods and conducted 51 face–to–face interviews. He gained interviewees through a hybrid convenience–purposive–snowball sampling method and used open–ended questions to interview them. Those questions included asking about their "views about wilderness, outdoor recreation and the wilderness experience, awareness of local recreation opportunities, means to retrieve park information, and preferences for park settings and facilities" (p.2). Hung initially divided respondents into four groups based on their acculturation level then created two groups, "high mainstream Chinese" and "low mainstream Chinese" (p. 2). The results indicated that high mainstream participants conduct more extensive and intensive park visitation. They tended to "visit a greater number of parks, [were] willing to travel further distance to access them, visit parks more often, stay longer and be attracted to more physically demanding or 'hard adventure' activities in parks" (p.3). Hung explored reasons for the under–participation from several different Chinese immigrants groups: 1970s immigrants, youth, and recent immigrants. Immigrants who arrived in the 1970s professed a desire for fair complexions for Chinese women, reported an association of wilderness areas with poverty stricken areas in China,

and stated a preference for Chinese traditional food as their reasons for low visitation to wilderness areas. Youth highlighted that their parents' control limited their visitation. From the perspective of traditional Chinese parents, academic achievement was a higher priority and wilderness areas were unsafe. For recent immigrants, the priority of work, the pressures of the recent immigrant life, their familiarity with and therefore greater comfort with highly developed parks, few experiences in wilderness parks, and cultural resistance were responsible for their low visitation to wilderness parks. Hung summarized the reasons that can be attributed to the under-visitation to wilderness parks by low acculturated Chinese as: fears of wildlife, isolation, remoteness, and crime; few past experiences in wilderness areas and familiarity with high development levels of parks; Chinese social network limited their company; and less awareness. For future research, the author suggested that measurements of acculturation need to improve and that acculturation can be combined with motivation or constraint concepts. Hung proposed the importance of the effect of past behaviour on immigrants' life. Further exploration of this is also needed.

Ethnicity studies within the context of parks

Gobster (2002) conducted research on ethnic groups' participation in an urban park in Chicago. He divided the park into three major zones (south, middle, and north) and 30 sub zones (e.g., beach, harbor, and playfields). Interviewers conducted samples at each different sub zones with a predetermined interval. More samples were conducted at north zones since ethnic groups visit those areas more frequently. The sampling method enabled Gobster to gain a representative cross-section of park users while maintaining an adequate amount of ethnic respondents. Survey items included use patterns, preferences, management concerns, and user demographics. Preferred locations within the park, incidents of racial discrimination, and ethnicity were included in ethnic group's survey.

The results indicated that compared to the White park visitors, ethnic group members tended to travel farther to the park, visit by car, visit the park less, and visit the park more often in large, family-oriented groups. It is worth mentioning that Asians were most likely to visit with families while Whites came to the park either alone or with another person. The results also revealed that different ethnic groups varied in preferred activities. All ethnic groups preferred passive and social park activities than Whites: Latin and Asian interviewees reported more participation in picnicking; Asians preferred organized festivals and parties; Latinos were more likely to watch organized sports and visit the zoo; while Blacks more commonly engaged in talking and socializing. Compared to ethnic groups, active-individual sports were more popular among White participants. As for active-group sports, Whites were more active in golf, tennis, and game playing; Asians preferred volleyball and golf. Moreover, the groups varied in participation of water-oriented activities. Whites were more frequently engaged in boating activities while Asians were more likely to fish. In addition, Latinos and Whites were both more likely to swim than other groups.

Gobster (2002) also found a difference in favorite features of the park among participants: Scenic beauty was the most important trait for Asian participants; Latin participants emphasized the refreshing function of the lake; White participants highlighted the trees

and other vegetation; Black participants were less concerned about natural features than other groups, they mentioned facilities, maintenance aspects and park activities more often.

Gobster (2002) indicated that research of ethnic groups' environmental perceptions and preference should be studied in addition to the traditionally researched topic of activity participation in "understanding how parks can better function for a diverse range of racial and ethnic groups" (p. 144). However, only a few studies have researched this area and most of the existing studies examined Black groups. More studies are needed in this area.

The limitation of the study is the on-site sampling method, which only recruited park users. Moreover, the samples were gained at a specific park, which results in the limited generalizability of the results. In addition, Gobster (2002) also suggested that researching all ethnic groups in one study – such as Blacks, Latinos and Asians in this study – is a little broad. Future research should investigate a specific sub-group based on a framework and methodology that particularly suit for study this group.

With a multiple hierarchy stratification framework, Thompson (2007) conducted his Master's thesis on how race, ethnicity, gender, age and socioeconomic status impact individuals' national parks visitation independently and collectively in United States. Two hypotheses were tested: 1. "Race and ethnicity" (p. 1), gender, age, and socioeconomic status would impact park visitation negatively as a single factor; and 2. "the combined effects of the above variables would result in older minority females without college degrees occupying the lowest stratum of the multiple hierarchy stratification continuum and younger White males with college degrees would occupy the highest stratum" (Thompson, 2007, p.1). Thompson used secondary data to test these two hypotheses. The data were taken from the National Park Service's first comprehensive survey of the American public which documented American's perspective of the National Park Service and National Park System units. The data were collected through standard Random Digit Dialing sampling procedures. The person whose birthday was closest to the survey date was selected from households as participants. Thompson only selected the data conducted from two metropolitan cities and compared multiple minority participants and White participants in these two data sets.

The results indicated that all the single factors have significant and negative impacts on park visitation. As for the factors which are related to this current research, the ethnic respondents were 58% less likely to visit national parks than White respondents; the respondents without college degrees were 61% less likely to visit national parks than those who had college level degrees; and the respondents with less than $20,000 household income were most likely (82%) to be non-visitors. Thompson proposed that the results related to ethnicity were consistent with previous research about the effects of race and ethnicity on leisure participation in general (i.e., Floyd, Shinew, McGuire, & Noe, 1994; Washburne, 1978). With regard to parks context, Thompson mentioned that Payne and his colleagues (2002) found that Blacks were less likely to visit parks. Thompson concluded several reasons for the low visitation to national parks by minority groups as "historical patterns of discrimination, limiting socioeconomic backgrounds, and

differing sub cultural values" (p.62). Another contribution of this study was that the results supported the second hypothesis that older age, female gender, minority status and lower socioeconomic status predict lower visitation rates to parks.

The author indicated that researchers should explore the reasons that account for the infrequent participation in outdoor activities of individuals with minority status, are female, older in age, and who have lower socioeconomic status. The reasons might be found from their attitudes, perceptions, and constraints. In addition, Thompson mentioned that the affect of discrimination and social class (different from socioeconomic status) should be examined in the future. These visitation constraints, perceptions of parks, and attitudes towards parks were examined through this proposed study.

Bain (2007) studied "how new Canadian individuals and groups understand, experience, identify, value, and emotionally and culturally connect with Canada's National Parks" (p. 1) in her Master's thesis. Using a qualitative approach she applied a focused ethnographic approach combined with elements of phenomenology and grounded theory. One-hundred and five participants were interviewed; they were selected using a purposive sampling method. The interviewees were divided into and interviewed in 11 focus-groups. The reasons that Bain chose the qualitative methodology are: little knowledge is available about the new Canadian's perspective on nature and national parks and the qualitative methodology is a good way for researchers to explore the topic with little or no knowledge; and it enables participants to convey their understanding, perspective, attitude, etc. in their words. The limitations of the qualitative methodology were proposed by Bain as "small numbers significantly limit generalization; responses were not independent, opinionated participants may have biased others; the discussion could be too structured; and/or the moderator may influence the group" (p. 38). Based on previous research on minorities participation in national parks (Bain, 2007; Deng, 2004; Hung, 2007; Thompson, 2007; etc.), it is rational to conduct a quantitative research and gain a more comprehensive and general understanding of minorities. In addition, Bain stated that another limitation was that the study only focused on the most representative new Canadian groups but failed to examine all the ethnic groups. In fact, it is hard to investigate all the different ethnic groups in one study since differences may result in different focuses and theoretical frameworks.

The discussion topics of the focus-groups were awareness and expectations of Canada's national parks, experiences with parks in original countries and in Canada, barriers, perspectives on working for Parks Canada, and values and connections with nature and parks. As for the topic of awareness, Bain explored the general awareness of national parks in general, activities in national parks and the purpose of parks. Most interviewees demonstrated a general awareness of Canada's national park system but a number of interviewees showed a lack of awareness and information of national parks. Interviewees were conscious of parks nearby Calgary and internationally famous national parks (e.g., Banff and Lake Louise) more than other national parks (e.g., Wateron, Yoho, Glacier, Kootenay and etc.). Bain categorized the activities mentioned by participants to three types: "passive tourist activities, nature appreciation activities, and adventure recreation activities" (p. 49). The discussion showed a popularity of passive activities instead of

adventure activities and the importance of friend- and family-oriented activities. Most participants also highlighted that the nature oriented educational function of parks visitation was significant for them.

Bain (2007) believed that the park experiences from the original country would give an insight on how new Canadians are connected and disconnected with Canadian national parks. She discovered that the positive aspects of New Canadians' national parks visitation in their origin countries were: "the mountains, forests, plants and animals, learning about natural areas, gaining knowledge of park history and local culture, clean air and water, activities and entertainment, regulations for park protection, being with family and friends, and/or the healing powers of nature" (p. 57); on the other hand, the negative aspects were "exploitation, tourism and development, overpopulation and pollution, absence of animals, distance is too great and/or park visit is too expensive" (p. 57). As for experiences in Canada's national parks, participants stated that "an appreciation for natural landscape and scenery, activities in parks, visits with family and friends, and learning about nature" (p. 59) as the positive parts while "cost, cold weather, environmentally irresponsible people, commercialization, not enough washrooms, inadequate information on parks and their history, [a] dearth of activities, logging, access and transportation issues, want to see more animals, hard to find places to eat, and scarcity of places to stay" (p. 60) as the negative factors.

Moreover, interviewees shared their barriers to national parks as "lack of leisure time and lack of discretionary funds; access and transportation issues; lack of information; winter weather and driving; family situation; lack of accompany; language issues; satisfied with other parks; need to adapt to city; and cultural gender roles" (p. 61). Additionally, Bain investigated new Canadians' value of and connection to nature. Participants indicated "romantic descriptions of nature, physical aspects of nature, auditory elements within natural settings, visual aspects of nature, and the human relationship to nature" (p. 71) as their perceptions of nature. Bain summarized that New Canadians connected deeply with nature: they were interested to "see, smell, touch, hear, taste, feel and experience nature on emotional, spiritual and psychological levels" (p. 71).

Deng (2004) compared mainland Chinese immigrants in Canada and Anglo-Canadian's attitudes toward national parks, the environment and leisure. He investigated whether these two groups held different attitudes toward the roles and functions of parks, the appropriate use of national parks, as well as whether they have differences in terms of leisure and environment values and attitudes. He also tested whether acculturation impacts the differences in those attitudes and values.

Due to the relatively high generalizability and low expenditure, Deng chose a stratified systematic sampling method. He targeted potential mainland Chinese participants from the 2002 Edmonton phone directory through their surnames since Chinese usually have their names in Hanyu pinyin. Based on Kang's (1972, as cited in Dion & Dion, 1996) indication that Chinese with English give names and Chinese surnames are more likely to be acculturated than others whose surnames and given names are both in Chinese, Deng identified Chinese participants with high acculturated level and low acculturated level.

Potential Anglo-Canadian participants were targeted through 50 commonest English names. Then advanced phone calls were made to recruit potential participants and a self-administered questionnaire was sent to those who agreed to participate. The questionnaire for Anglo-Canadian participants included four parts: demographic information, attitudes toward national parks, environment and leisure; the questionnaire for mainland Chinese participants contained an additional part regarding to their acculturation level. Finally, 178 mainland Chinese and 160 Anglo-Canadians samples were obtained.

With regard to the attitude toward the policies of national parks, the findings indicated that Chinese respondents had less accessibility to the information of Canadian national parks; consequently they had less knowledge of Canada's national parks and were less conscious and supportive of the parks' policies that emphasize protecting ecological integrity in the parks. Deng further discussed several reasons that account for this difference: the familiarity of culture and history related to protected areas and policies in those areas; the different meaning of the word "park" in Chinese; the priority of considering immediate environmental issues for immigrants; less attachment to national parks; and preference of middle range answers of survey instruments. Those reasons could also explain why Chinese participants tend to demonstrate less support for the national parks' function as a place for promoting a sense of Canadian identity, spiritual enjoyment and future enjoyment. As for the appropriate use of national parks, both Chinese and Canadian participants indicated that sports/recreation facilities are less appropriate than visitor facilities. In terms of consumptive activities, Chinese and Canadian respondents shared similar attitudes toward jogging, running, walking, wildlife watching and taking pictures while holding different attitudes toward others. Chinese respondents were more supportive of power boating in parks while Canadian respondents were more supportive of rock-climbing, picnicking, barbecuing, mountain biking and sightseeing by car. Deng suggested the reason for these observations is that those activities are not traditional in Chinese national parks and Chinese respondents were not familiar with them. This reason can also explain that Chinese participants were more likely to rate consumptive activities (e.g., gathering natural edible products, fishing, and hunting) as appropriate. In addition, those two groups hold different attitudes toward accommodation and service facilities (e.g., camping). Deng suggested that the more crowded situation in Chinese national parks may result in this difference.

As for the values of environment, both Chinese and Canadian participants shared similar attitudes toward biospheric aspects of environmental values. Deng suggested that the nature value shift in China and Western countries might account for this similar attitude. In contrast, Chinese participants rated social-altruistic aspects of environmental values more important than Anglo-Canadians, which might result from the collectivism of Asian culture. With regard to the attitudes toward the environment, Chinese and Canadian participants shared similar attitudes toward ecocrisis and balance-of-nature while they differed in the attitudes toward limits to growth and anti-anthropocentrism with Chinese participants less supportive of those two perspectives than Anglo-Canadian participants. Deng suggested that the limited economic status might explain why Chinese immigrants give their priority to economic growth rather than general environmental protection.

The findings indicated that Chinese held similar behavioural components of leisure attitudes as Canadian participants while ranking affective and cognitive components of leisure attitudes as less important than Canadian participants. This result is consistent with the general understanding that leisure and recreation are less valued in Chinese culture. In terms of the similarity in behavioural components of leisure attitudes, Deng (2004) stated that even through Chinese immigrants experience more constraints when engaging in leisure behaviour they appear hold a similar level of intention to engage in leisure behaviours as Canadian participants. In addition, people may place less value on a leisure activity but still like to engage in it (e.g. watching TV). Hence it is rational that Chinese participants disvalued the cognitive and affective aspects of leisure attitudes while still holding similar attitudes toward the behaviour aspect of leisure as Canadian participants.

The results demonstrated that acculturation does not have a significant effect as previous studies suggested. Significant differences were only found on several sub-scales. These are "accommodation and service facilities, consumptive activities, visitor facilities, social-altruistic value orientation and anti-anthropocentrism, where the low acculturated Chinese are significantly different from Anglo-Canadians, while the high acculturated Chinese are not" (p. 346). Besides, there are no discernable differences between high and low acculturated Chinese participants' attitudes toward almost all parks related facilities and services. The same situation was found between those Chinese who identified themselves as Chinese and those who identified themselves as Chinese Canadians. This result indicated that Chinese participants tend to be homogenous and that ethnicity was the more important factor that accounted for the different attitudes toward national parks, the environment and leisure held by participants.

Deng (2004) indicated that the findings related to acculturation may result from the limitation of the study's sample. The sample, which was collected through stratified systematic sampling method tended to be homogeneous in terms of the residence length. The majority of Chinese participants arrived in Canada within 10 years; hence their acculturation levels tended to be low and the impact of acculturation did not appear evident. The author suggested that future studies should be conducted in other cities (e.g., Vancouver, Toronto) to involve more diverse Chinese participants. The more diverse samples would also enable a further investigation of other subgroup differences.

Theories

The former part outlined the previous studies that are relevant to the current study. The theories that were applied in the research are discussed next.

Theory of Marginality

Four principle theories have been developed to explain leisure and recreation differences of racial and ethnic minorities: marginality, ethnicity, acculturation, and perceived discrimination. Marginality is one of these four principle theories. Washburne (1978) first proposed a marginality hypothesis. It states that less participation of minority groups is due to their limited socioeconomic status. Many researchers mentioned Washburne's marginality hypothesis since it was one of the hypotheses that dominated early research

in ethnicity studies in recreation and leisure area. Most researchers combine this perspective with other theories because the marginality hypothesis cannot explain minority groups' under-participation comprehensively.

As Thompson's (2007) findings supported, "when controlling for socioeconomic status, race continued to be a statistically significant factor contributing to differences in levels of participation between Blacks and Whites" (p. 21). Additionally, the marginality hypothesis only suits particular minority groups. During the early stages of research in ethnicity studies among minority groups, most research focused on the Black American populations, and later Hispanic groups. The popularity of the marginality hypothesis during this stage was because it is more suitable to explain the difference between Black and Hispanic minority groups and mainstream society than other minority groups (i.e., Asian groups). In general, Chinese groups have comparable economic status as dominant groups. As Tsai (2000) found, Chinese immigrants have even higher socioeconomic status than the general population in Australia. A similar situation can be found in Canada and the United States also.

The study collected respondents' demographic characteristics, such as gender, age, education level and household income. Two of the demographic characteristics, education level and household income were utilized as indicators of marginality. Even though marginality theory was anticipated to not be overly effective in explaining Chinese Canadians' parks use this research question was proposed:

> To what degree do education and income predict the visitation to a) local parks; b) more distant parks and protected areas?

Theory of Ethnicity
Definition of Ethnicity
Some researchers use "race" and "ethnicity" as interchangeable terms in their studies. These two terms have similar meanings; however, in leisure research they have different definitions. We should clarify these two definitions first. "Race" and "ethnicity" are similar in that both suggest the existence of diverse human groups; the difference is they emphasize different aspects of these groups. Race stresses biological or physical features (Bramnel, 1996; Tsai, 2000), while ethnicity gives emphasis to cultural aspects of a particular group (Brammel, 1996). In addition, race is a fixed feature that one is born-with while ethnicity is changeable (Tsai, 2000).

Related to the notion of ethnicity is the term "sub-culture." From this perspective, ethnicity refers to different human groups that share a unique subculture (i.e., norms, values, socialization patterns and life styles); this distinguishes them from the dominant group. Washburne (1978) originally defined ethnicity from this perspective. He empirically explored this concept of ethnicity in his highly influential study, which is recognized as the foundational leisure study on ethnicity difference. Many researchers have adopted Washburne's viewpoint and define ethnicity from a subculture perspective (Edwards, 1981; Irwin, 1990; Kochman, 1981; Tsai, 2000; West, 1989).

It is worth mentioning that from a sub-cultural perspective, what really make one particular human group different from a majority population is not only particular features or components (i.e., language) but rather a structure, or "organization" of these components, a way of operation in daily life, as Goodenough (1957) mentioned in his seminal definition of culture:

> A society's culture consists of whatever it is one has to know or believes in order to operate in a manner acceptable to its members. Culture is not a material phenomenon; it does not consist of things, behaviour, or emotions. It is rather an organization of these things. It is the form of things that people have in mind, their models for perceiving, relating, and otherwise interpreting them. (p. 167)

Moreover, ethnicity is changeable. As Nagel (1994) states in his study, ethnicity is shaped and reshaped by minority members themselves, inside individuals and outside majority society together. Thompson (2007) also supports this argument and indicates that the formation and transformation of ethnicity is a continuous process.

The ethnicity hypothesis indicates that leisure varies among different ethnic groups due to their different sub-cultures. As we discussed before, sub-culture differences are revealed through the ways people conduct their daily lives. Differences are rooted in the individual and they are internal and direct factors that give rise to different leisure behaviour and patterns. Compared to ethnic factors, racial factors are external factors that impact minority's leisure patterns through discrimination by the majority population indirectly as several researchers have observed (Floyd & Gramann, 1993; Johnson, Bowker, English, & Worthen, 1998; Tisa, 2000; West, 1989).

Related Study of Ethnicity
Washburne's (1978) research is not the first one to study recreation or leisure differences among ethnicity groups, but he established fundamental theory to explore this area. He highlighted the importance of ethnicity and marginality and investigated the variation of leisure patterns between Black and White people from these two perspectives. His findings supported the importance of ethnicity rather than marginality. He found ethnicity factors still persisted when he controlled the socio-economic factors, which suggested that less participation of Black Americans in outdoor or nature based activities, is more attributable to subculture differences.

After Washburne's study, from the late 1970s to the end of 1980s, many researchers employed his hypothesis to examine the difference between minority and majority groups. Some findings (Edwards, 1981; Floyd, Shinew, & McGuire, 1994; Gramann, & Saenz, 1993; Hutchison, 1987; Irwin, Gartner, & Phelps, 1990; Jaakson, 1973) are similar to Washburne's that support the ethnicity perspective rather than marginality perspective; while other studies (Stamps & Stamps, 1985) supported both ethnicity and marginality perspectives. Consequently, researchers always combined Washburne's two-perspective hypothesis with other theories or hypotheses in research studies conducted from the 1990s to early 2000s.

As for recent studies, several studies also supported the ethnicity perspective. Gobster (2002) and Thompson (2007) studied multiple ethnic groups in the United States and found that ethnic groups visit parks less and preferred different activities compared to White populations. With a multiple hierarchy stratification framework, Thompson (2007) conducted his Master's thesis on how race, ethnicity, gender, age and socioeconomic status impact individuals' national parks visitation independently and collectively in United States. The results indicated that the ethnic respondents were 58% less likely to visit national parks than White respondents. Thompson proposed that the results were consistent with previous research about the effects of race and ethnicity on leisure participation in general (i.e., Floyd, Shinew, McGuire & Noe, 1994; Washburne, 1978). With regard to parks context, Thompson mentioned that Payne and his colleagues (2002) found that Blacks are less likely to visit parks. Gobster (2002) conducted the research on ethnic groups' participation in an urban park in Chicago. Survey items included use patterns, preferences, management concerns, and user demographics. The results also indicated that ethnic group members tended to travel farther to the park, visit the park less, and visit the park more often in large, family-oriented groups compared to the White park visitors. Moreover, the results revealed that different ethnic groups varied in preferred activities. All ethnic groups preferred passive and social park activities more than Whites: Latin and Asian interviewees reported more participation in picnicking; Asians preferred organized festivals and parties. Compared to other ethnic groups, active-individual sports were more popular among White participants. Additionally, Bain (2007) also discovered a popularity of passive activities instead of adventure activities and the importance of friend- and family-oriented activities in her Master's thesis about new Canadians' understanding, experience, value, and connection with Canada's national parks.

While Bain (2007), Gobster (2002) and Thompson's (2007) explored multiple ethnicity groups' leisure participation, several other studies revealed that similar patterns can be found among Asians and Chinese populations in particular. According to Hung (2003), Asian populations in Great Vancouver were less likely to visit provincial parks or participate in outdoor activities:

> BC Parks reports that 37 percent of Asians and East Indians have never used a Provincial Park (BC Parks Research Services, 1991). This is almost three times the percentage of the general population. Provincial and regional park authorities have also found that, in general, the Asian population has lower rates of participation in outdoor recreation activities than the Euro-Canadian population (BC Parks Research Services, 1991; The Rethink Group and Praxis Pacific, 1994, as cited by Hung, 2003, p.2).

Based on this observation, Hung further explored the under–participation of Chinese Canadians in wilderness–oriented parks and outdoor recreation activities in Greater Vancouver. The results indicate that highly acculturated participants have more extensive and intensive parks visitation. They tend to "visit a greater number of parks, willing to travel further distance to access them, visit parks more often, stay longer and be attracted to more physically demanding or 'hard adventure' activities in parks" (Hung, 2003, p.3).

Particularly, Walker, Deng and Dieser (2001) did a comparative study about outdoor recreation motivation between Euro-North Americans and Chinese in a national park near Edmonton. They explored how ethnicity and acculturation affect an individual's motivation to engage in outdoor recreation. The results indicated that Euro–North Americans tended to visit the park more frequently than Chinese participants did. Moreover, viewing wildlife and scenery was the most important activity for Chinese participants while camping and walking/hiking were the most important activity for Euro–North American participants. Walker, Deng and Dieser (2001) also found the similar tendency among Chinese immigrants in Canada. The results of their study reported that the most important activities of Chinese in national parks are viewing wildlife and scenery, compared to camping and hiking as the most important activities among Canadians.

Chinese Canadians' activities preferences in parks are consistent with their leisure and recreation lifestyle. Hall and Rhyne (1989, as cited in Deng, 2004) found that Chinese immigrants in Ontario preferred to watch TV, watch rented videotapes, read books and go to theatres or concerts compared to Canadians. Zhang's (1996, as cited in Deng, 2004) findings also showed that the frequently participated in activities pre- and post-immigration among three sub cultural groups (mainland China, Taiwan, and Hong Kong) were home and indoor oriented. After studying the recreation activity participation levels and patterns of recently arrived Chinese immigrant adolescents, Yu and Berryman (1996) stated that most participants engaged more in home and indoor-based activities than any other type of recreation activity. Later, Wang and Stringer (2000) also found that Chinese people prefer to "read books, write poems, listen to music, and talk with their friends at home rather to go out and recreate" (p.35). These findings demonstrated that popularity of indoor and passive activities characterize Chinese immigrants' leisure patterns. This feature is also corresponds to Chinese mainstream's leisure patterns in their original country. The following section describes Chinese mainstream's leisure patterns and their valuation of leisure. It gives a general knowledge about the past leisure/ recreation lifestyle of Chinese immigrants in their original country, which will help researchers and parks practitioners understand their different leisure participation in Canada. Additionally, there are a few studies that explored the leisure/recreation of Chinese. However, almost all of them are found in English academic resources and always from a western viewpoint. The next section discusses several studies from Chinese academic resources.

Chinese mainstream's leisure patterns and value
Several Chinese academic researchers conducted studies on how Chinese city residents spend their leisure time in China in different metropolises in China. For instance, Li and Chai's (1999) study in Dalian, Liu, Chai and Gong's (2000) study in Shenzhen, Yang's (2002) study in Chengdu and Zheng and Zhu's (2006) study in Shanghai. The Yang's (2002) study was chosen since its findings were very similar to research conducted in other metropolises. Hence it illustrates the most common leisure patterns of city residents in China. Yang (2002) surveyed 1673 residents of Chengdu, one of the largest cities in Southwest of China. Table 2.2 presents main findings of his research.

Table 2.2 *Distribution of Leisure Activities of Chinese Residences in Chengdu*

Activities	%	Activities	%
TV/Music	57.3	Film	29.1
Shopping	45.9	Singing	28.2
Reading	40.1	Sporting	27.5
Visit relatives and friends	37.9	Visiting nearby natural area/farms	26.9
Parks visiting	35.9	Playing Mahjong	25.9
Housework	35.9	Walking	25.2
		Tea with friends	23.3
		Others	18.4

As described in Table 2.2, the most common activities were: 1) home or indoor based activities and 2) passive activities even though they happened outside home (i.e., film, singing, tea with friends). Yang's (2002) findings are similar to what Wang (1999, as citied by Deng, 2004) stated in his article. According to Wang (1999, as citied by Deng, 2004), the most popular home-based leisure activities in China were: watching TV, reading books and newspapers, listening to the radio, playing Mahjong, and chatting with family members. Outside the home the top three activities were: going to parks, playing Mahjong, and going to the movies. Passive activities characterized a great proportion of both home-based and outside home activities. These observations are consistent with findings from National Tourism Administration of China (2001). Indoor activities and passive nature appreciation are also what Tsai (2007) summarized as sedentary leisure lifestyle. Her study also supported the conclusion of the preference of a sedentary leisure lifestyle among Chinese.

The different meanings and values of leisure in Chinese culture can explain this difference in leisure patterns. First, leisure has a different meaning in Chinese traditional culture compared with Western culture. This can be dated from ancient times. In Chinese, xiuxian (休闲), the characters of leisure, originally mean "a person leaning against a tree for a rest" and "a tree inside a yard" (Ma, 1998, as cited in Deng, 2004). From the western perspective, the term "schole", the ancient Greek word for leisure, means "serious activity without the pressure of necessity" (Goodman, 1965, cited in Godbey, 1994, p.4). Similarly, Aristotle regarded leisure as "a state of being in which activity is performed for its own sake" (cited in Kraus, 2001, p.32). Both of those two explanations of leisure from ancient western society are emphasized in the term "activities", though those activities are characterized free choice by individuals, while Chinese emphasize "rest". In addition, Chinese culture treats leisure and recreation as less important than western culture and emphasizes work and study achievement. Several researchers highlighted this phenomenon with their studies (Cheng, 1948; Chesnutt, 1983; Deng, 2004; Yu & Berryman, 1996). Hence Chinese tend to exert less effort in their leisure/recreation time. As Yu and Berryman (1996) stated that they have a preference for

less organized, less expensive, less physically active, less skill oriented, and more easily accessible leisure.

Theory of Acculturation

Acculturation theory is another popular theory that has been applied by many researchers when conducting leisure studies on ethnicity. Many researchers define acculturation as a process in which the minority groups adopt or absorb a dominant group's cultural values and ethnic identities and their original values, attitudes, behaviours, customs become similar to those of majority groups (Gómez, 2002; Marin & Marin, 1991; Medoza, 1989; Orozco, Thompson, Kapes, & Montgomery, 1993; Tsai, 2000; Yu & Berryman, 1996). While researchers share similar opinions about how this "process" occurs, they hold different opinions with regard to the outcome of this process. Gordon (1964) (as cited in Gómez, 2002) states that, while accepting the dominant culture, the minority groups still "keep their own cultural norms". Whereas other researchers highlight that ethnic groups will "gradually lose their ancestral cultural traits" during this process (Marin & Marin, 1991). From a comprehensive perspective, the result of this process is a "mixture" rather than simply adding, loosing or maintaining elements. Mendoza (1989) indicates that during the acculturation process, the minority group "incorporates the culture" from the dominant society into their existing culture. Actually, this mixed outcome is what other authors describe as "selective acculturation," "functional acculturation" or "structure acculturation" in their studies. From this perspective, acculturation refers to a process that minority members switch over certain aspects of their existing culture to that of dominant culture and still retain some aspects of their culture values and ethnic identities (Duan & Vu, 2000).

There are some other points with regard to acculturation worth mentioning. First, the acculturation process is particularly related to first generation immigrants (Tsai, 2000). Moreover, as Berry et al. (1986) and Gómez (2002) mention, acculturation is a continuous process. Gómez (2002) further indicates this process "begins when one is born" and continues to change over time. This interpretation is not exactly correct. Actually, the acculturation process starts when the ethnic culture meets the dominant culture and when the minority group member is exposed to the majority society. The level of acculturation keeps changing as the ethnic individuals interact with the majority group (Marin & Marin, 1991). Hence the boundary of one's acculturation is changeable, which is depends on one's interaction with dominant group. Furthermore, acculturation occurs at "different paces along different cultural dimensions" (Tsai, 2000, p.35). Some ethnic culture characteristics (e.g., language) are influenced and replaced by dominant culture patterns more easily than others (e.g., values) (Keefe & Padilla, 1987; Orozco, Thompson, Kapes, & Montgomery, 1993).

The general relationship between acculturation and recreation/leisure is that the ethnic member will have more similar recreation/leisure patterns as dominant members when he/she becomes more acculturated, and vice versa. Findings of many researchers support this perspective, only few studies will be discussed here. One set of early articles found that the recreation patterns of Chinese immigrants become more similar to Westerners as their acculturation level rose (Cheng, 1948; Emery, 1984; Kwong, 1987; Millard, 1987)

(as cited in Yu & Berryman, 1996). On the other hand, Floyd (1999) found a similar result in national parks' visitation. He stated that "as members of ethnic minority groups acquire cultural characteristics of the dominant culture, or affiliate with majority group members; they will exhibit national park visitation patterns similar to those of the majority" (p. 5). As for Chinese populations in particular, Deng and Walker (2005) found a significant relationship between acculturation and leisure attitudes of the Chinese Canadians. The more acculturated Chinese Canadians tend to have more similar leisure attitudes as general Canadians. Hung (2003) explored the under–participation of Chinese Canadians in wilderness–oriented parks and outdoor recreation activities in Greater Vancouver. The results indicate that highly acculturated participants have more extensive and intensive parks visitation. They tend to "visit a greater number of parks, [are] willing to travel further distance to access them, visit parks more often, stay longer and [will] be attracted to more physically demanding or 'hard adventure' activities in parks" (Hung, 2003, p.3).

As discussed previously, compared to population in general, Chinese populations tend to visit parks or participate in leisure less and engage more in passive and indoor activities. Acculturation theory suggests ethnic members will have more similar recreation/leisure patterns as dominant members when they become more acculturated, and vice versa. This study hypothesized that Chinese Canadians with higher acculturation levels will have more similar leisure and recreation patterns as the general population and therefore would be more likely to visit parks and natural areas. The hypothesis related to activities preferences is not included since the current study focused on the parks visitation frequencies rather than activities preferences. The following research question was examined:

> To what degree does the level of acculturation predict Chinese immigrants' visitation to a) local parks; b) more distant parks and protected areas?

Environmental Identity

Identity is recognized as an important indicator of behaviours. According to James (1950), identity is a way in which individuals organize information with regard to themselves, in other words, a way in which they form their self-concept (Clayton, 2003). Identity is described as a product as well as a force: a person's belief about the self and his/her motivator of preferred ways of interacting with the world (Rosenberg, 1981, as citied in Clayton, 2003).

Clayton (2003) proposed that environmental identity is an important part of identity. It is a relationship between individuals and the natural environment, which is formed and developed based on one's history, beliefs and emotional systems. As a motivator, it impacts individuals' perception and reaction to the world which includes their personal and social behaviours. Clayton created a scale that is called EID scale to examine individuals' environmental identity. A significant correlation was found between EID scores and environmental behaviours, which supported the applicability of environmental identity to predict individuals' behaviours toward nature and environment (Clayton, 2003).

Winter and Chavez (2008) studied wilderness recreationists' attitudes toward natural resource management and its connection with their environmental identity. They studied environment identity among White people as well as minorities. They utilized Clayton's (2003) EID scale and showed its applicability among both White and Hispanic groups. A significant and positive correlation was found between environmental identity and sustainable management of natural areas. Respondents who reported higher EID scores were more supportive of managing natural resources for protection purposes and low-impact recreation. The result revealed that environmental identity is a useful indicator for nature and environment related behaviours. It also supported the utilization of environmental identity to study ethnic people.

This current study explored the relationship between environmental identity and parks visitation among Chinese immigrants. It is theorized that respondents who have more positive and stronger connections with natural environment are more likely to visit parks and other natural areas. The following research question was investigated:

To what degree does environmental identity predict the visitation to a) local parks; b) more distant parks and protected areas?

Leisure Attitude

Attitude is traditionally recognized as a predictor of behaviour. According to Ajzen (1977), attitudes are "held with respect to some aspect of the individual's world" (p. 889). It is "a person's evaluations of the entity" (p. 889). Behavioural criteria "consist of one or more observable action performed by the individual" (p. 889). Attitude is classified as three components: cognitive, affective and behavioural (Triandis, 1967). This differentiation is supported by most researchers (Cook & Selltiz, 1967; Cooper & McGuagh, 1963; Hollander, 1971; Katz, 1960; Katz & Scotland, 1959; Lindgren, 1969; Martens, 1975; Neulinger, 1976; Triandis, 1967). As describe in the introduction of this thesis Ragheb and Tate (1993) applied this three-part classification to leisure attitudes.

Both Ragheb (1980) and Ragheb and Tate (1993) found leisure attitudes are positively related to leisure participation. This finding is also supported by Neulinger and Raps' (1972) research. Neulinger and Raps (1972) compared a sample of 343 Mensa members to a norm group of 335 full-time working adults. They found leisure attitude correlated positively with leisure participation. In addition, Christensen and Yoesting's (1973) research provided further support for this positive interaction between leisure attitude and participation.

The current study theorized that respondents with more positive leisure attitudes are more likely to visit parks and natural areas. The following question was investigated:

To what degree do the leisure attitudes predict the visitation to a) local parks; b) more distant parks and protected areas?

Parks Attitude

The investigation of the parks attitude is inspired by and based on Gómez's (2002, 2006) study. Results from Gómez's study supported the hypothesis that parks attitude is positively correlated to leisure visitation. Gómez (2006) mainly measured participants' perceived benefits of visiting parks and its relationship with parks visitation. He labeled participants' perceived benefits of visiting parks as their "parks attitude". The theoretical basis this was Iso-Ahola's (1980) motivation theory that explores the motivation of leisure and recreation behaviours. Iso-Ahola created Benefits of Leisure Scale to investigate people's motives of leisure and recreation participation.

According to Murray (1964, p. 7), motivation is defined as "an internal factor that rouses, directs, and integrates a person's behavior." It is "not observed directly but inferred from his behavior or simply assumed to exist in order to explain his behaviour." In terms of tourism context, motivation was defined as "a meaningful state of mind which adequately disposes an actor or group of actors to travel, and which is subsequently interpretable by others as a valid explanation for such a decision (Dann,1981, p. 211, as cited in Snepenger, King, Marshall & Uysal, 2006, p. 140)". According to Iso-Ahola (1980), the motives of leisure and recreation behaviours include four dimensions as personal seeking, personal escape, interpersonal seeking, and interpersonal escape. Snepenger et al. empirically tested the structure of Iso-Ahola's model in tourism context (2006). The results supported the existence of those four dimensions of motives for tourism related behaviours. Also, they found positive and moderate correlations among the four dimensions. The results suggested the applicability of the Iso-Ahola's leisure and recreation motivation theory in the tourism context. Travel to a destination was motivated by the perceived benefits of visiting that destination.

This current study explored the relationship between parks attitude and parks visitation among Chinese immigrants. It is theorized that respondents who have more positive attitudes toward parks are more likely to visit parks and other natural areas. The following research question was investigated:

To what degree does parks attitude predict the visitation to a) local parks; b) more distant parks and protected areas?

Chinese Canadians' Parks Visitation Model

Inspired by Gómez's (2006) Ethnicity and Public Recreation Participation Model (Figure 2 2), a model named "Chinese Canadians' Parks Visitation Model" (Figure 2 3) is created to illustrate the hypothesized relationships between the independent and dependent variables in this study. Based on the previously described review of literature it was anticipated that each independent variable would positively predict park visitation. The methods applied to observe and measure these variables are addressed next in the Research Method chapter.

Figure 2   2 *Ethnicity and Public Recreation Participation Model (Gómez, 2006)*
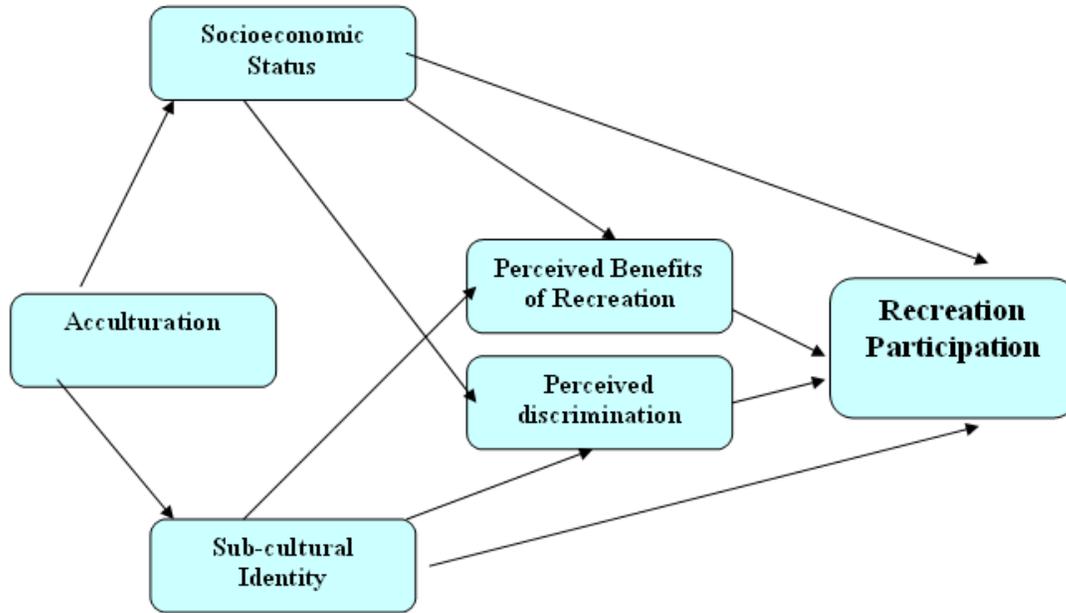
Figure 2   3 *Chinese Canadians' Parks Visitation Model*
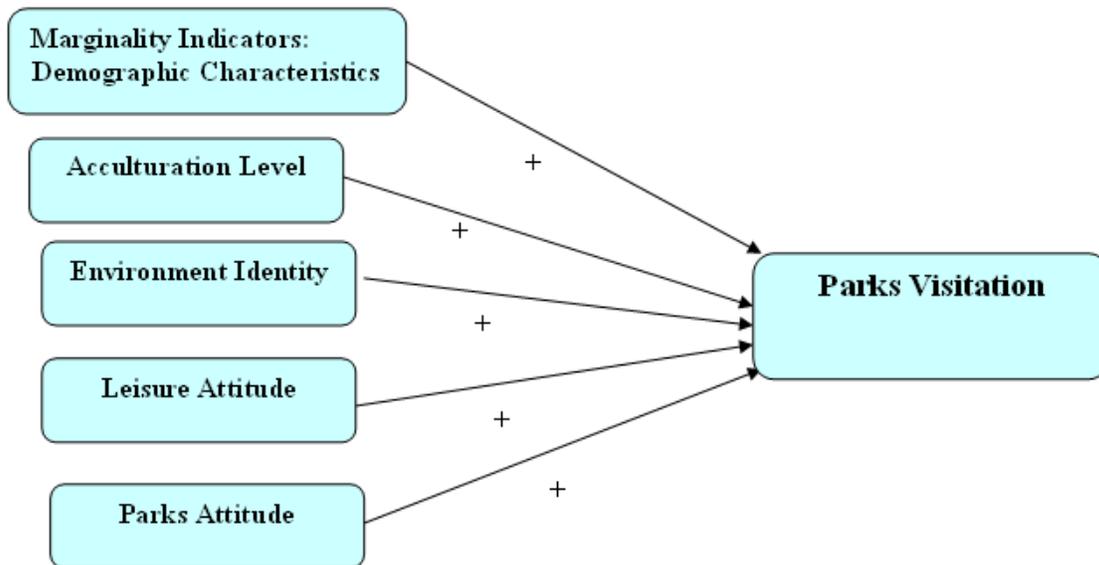
Chapter 3: Research Methodology

Research Questions

As stated in the preceding chapter, the main purpose of this research project is to explore what factors can predict Chinese Canadians' visitation to local and distant parks. Based on this purpose, the specific research questions relating to the study's main factors are as follows:

A. To what degree does environment identity predict visitation to a) local parks; b) more distant parks and protected areas?
B. To what degree do leisure attitudes predict visitation to a) local parks; b) more distant parks and protected areas?
C. To what degree do parks attitudes predict visitation to a) local parks; b) more distant parks and protected areas?
D. To what degree does level of acculturation predict visitation to a) local parks; b) more distant parks and protected areas?
E. To what degree do education and income predict visitation to a) local parks; b) more distant parks and protected areas?
F. How often did Chinese Canadians visit parks in the last year?

It was anticipated that each of these variables would positively predict park visitation. Also, some secondary data were collected to explore Chinese Canadians' parks visitation patterns and their comments about improvements of Canadian parks. These questions include:

A. How often have Chinese Canadians visited parks in the distant past (childhood) and recent past (before immigration)?
B. What park-related activities did Chinese Canadians engage in during their childhood; and what park-related activities do Chinese Canadians currently engage in?
C. What are the favourite activities of Chinese Canadians and were they satisfied with the services they experienced at Canadian parks?
D. What recreational activities would Chinese Canadians like to engage in the future when visiting Canadian parks?
E. What constraints do Chinese Canadians experience when considering a visit to a local or distant park?
F. What improvements do Chinese Canadians recommended for local and distant Canadian parks?

Measures

Based on the listed research questions, ethnicity and sub-cultural characteristics, acculturation level, leisure attitudes, environmental identity, attitudes toward parks, visitation patters in parks and participant characters were investigated through a self-

completed questionnaire. The scales were selected from existing research studies that have already been tested among minority populations and were modified and tailored to this study.

Measures of ethnicity and sub-cultural identity

Ethnicity was measured by a self-identification question which was adapted from the Statistics Canada 1996 Census procedure (Statistics Canada, 1996, as cited in Deng, 2004). Respondents were asked to identify which of the four ethnic or cultural groups they belonged to; categories included: Canadian, Chinese, Chinese Canadian and other. This format was also used by West (1989) when he studied minority groups' recreation. The question of sub-cultural identity was designed in a similar manner in which respondents were asked to identify which sub-cultural group they belonged to: Mainland, Hong Kong, Taiwan and other.

Measures of acculturation

The scale used to investigate the acculturation level in this research is based on Ryder, Alden and Paulhuns' (2000) scale, which is called "Vancouver Index of Acculturation". There are two perspectives that dominant the investigation of acculturation level. Ryder et al. (2000) labelled them as "unidimensional" and "bidimensional." The main difference between them is that they treat the relationship between the original culture and the mainstream culture in different ways. From the unidimensional perspective, the acculturation process is a single effect process where individuals adopted dominant culture while abandoning their original culture (Gordon, 1964; Ryder, Alden, & Paulhus, 2000). On the contrary, from a bidimensional perspective, acculturation is believed to be a more interactive course rather than single effect process, in which individuals may adopt the values, attitudes, and behaviours of the mainstream culture while still maintaining their original culture characteristics (Ryder et al., 2000). Ryder et al. (2000) investigated these two assumptions. Based on the results, Ryder and his colleagues (2000) developed an improved bidimensional scale: the Vancouver Index of Acculturation (VIA). It is a self-report instrument which examines values, social relationships, and loyalty to traditions. The measures were developed based on the Suinn et al.'s (1987, 1992) scale that is the most widely used acculturation scale from unidemensional perspective and Berry's (1997) scale, the most widely used measurement to investigate acculturation level from a bidimensional perspective. The VIA instrument is based on paired items, of which one indicates Chinese culture and the other indicates North American culture. It has a total of 20-items and each of them is rated on a 10-point scale from strongly disagree (1) to strongly agree (10).

The present study used a modified version of Vancouver Index of Acculturation scale (VIA) with additional items from several other researchers' scales.

Table 3.1 lists the items that were used in the final survey instrument. Ten out of 14 items were adopted from VIA. Four items, 1, 2, 5, and 6 are grouped into 2 pairs to reflect language preference and food preference, respectively, because language familiarity and usage is one of the most widely recognized indicator of acculturation level (Deng, 2004; Gómez, 2002; Padilla, 1980; Tsai, 2000; Walker & Deng, 2001; Yu & Berryman, 1996),

and the measurement of food preference was also a popular indicator used and tested by several researchers (Deng, 2004; Tsai, 2000).

Additionally, two supplementary questions measured the acculturation level of the respondents in the last section of the survey instrument. They are classic questions for measuring acculturation levels (Ryder, Alden, & Paulhuns, 2000). Length of immigration was measured with Question 36: "If you immigrated to Canada from another country, what year did you arrive in Canada?" This is a supplementary question for measuring acculturation level of the respondents .Question 37 measured the residency status of the participants in the last section of the survey instrument, in which the respondents were asked to select their residency status from three categories: "I immigrated to Canada from another country," "My parents immigrated to Canada from another country" and "My family has lived in Canada for several generations".

Table 3.1 *Acculturation Items Used in the Final Survey Instrument*

Acculturation

1. I prefer to speak and write in Chinese (including Mandarin and Cantonese)
2. I prefer to speak and write in English
3. I often participate in Chinese culture (e.g. Chinese New Year)
4. I often participate in Canadian culture (e.g. Canadian Thanksgiving Day)
5. I would prefer to eat Chinese food at home
6. I would prefer to eat Canadian food at home
7. I am comfortable interacting with people that are typically Chinese
8. I am comfortable interacting with people that are typically Canadian
9. Most of my friends are Chinese or Chinese Canadians
10. Most of my friends are Euro-Canadians
11. I often behave in ways that are typically Chinese (e.g. one should be modest)
12. I often behave in ways that are typically Canadian
13. I believe in the values of Chinese culture (e.g. I will financially support my parents when they are old)
14. I believe in the values of Canada culture (e.g. I believe in strong societal support for those who can not help themselves)

Measures of leisure attitudes

Ragheb and Beard's (1982) created their leisure attitude scale two decades ago. As it measures all leisure attitudes aspects, it became the most widely applied leisure attitude measure (Deng, 2004). Another important reason for choosing the leisure attitude scale is that it was tested amongst both English speaking populations (Ragheb & Beard, 1982) and Chinese Canadians (Deng, 2004). Both studies demonstrated the high reliability of the scale. In Ragheb and Beard's (1982) research, the Cronbach's alpha of the total scale was .94 and for cognitive, affective and behavioral components the Cronbach's alpha ranges from .89 to .93. Deng's (2004) study applied the scale to Chinese Canadians and also found a high reliability of the scale with a .90 Cronbach's alpha. As Deng's (2004) research demonstrated the applicability of applying the leisure attitude scale to Chinese Canadians, the scale used in this study was mainly derived from Deng's version of the

scale. However, due to the length of the questionnaire, the current study abridged Deng's scale by deleting some similar items.

As Ragheb and Beard (1982) stated, leisure attitudes have three different components: cognitive, affective and behavioural components. They created 12 items to measure each of those three aspects respectively. In total, the leisure attitude scale has 36 items. Deng selected the items that have highest reliability from the three different components and shortened the scale to 24 items. He also made some modification of the scale. For instance, he changed the expression "leisure activities" in the cognitive part to "leisure pursuits" because it does not limit the meaning of leisure as an activity (Deng, 2004). In terms of the affective component, he mentioned two concerns. One is that respondents may "like a leisure activity and experience but still place less value on it" (Deng, 2004). Hence one respondent may have high score of some cognitive items but rate low values for some affective items --- one may like to take part in some leisure activities (e.g., watching TV, playing games) but place less value on them. This situation may be found often among Chinese since Chinese traditional culture appreciates hard study and work and treats leisure and recreation as opposite to these activities. Instead of realizing the value of leisure and recreation, leisure is perceived to be a waste people's time. Therefore some Chinese may feel guilty when they are involved in leisure and recreation activities. This is consistent with Walker and Deng's (2004) findings. Hall and Rhyne (1989) also found similar results from ethnocultural populations. Based on their findings, Deng derived an item "I feel guilty about enjoying myself" from Hall and Rhyne's (1989) scale and added it into the leisure attitude scale. Table 3.2 provides a complete list of the items used in this study. Each of the 13 items was measured using a four point Likert-type scale ranging from "1 –strongly disagree" to "4 – strongly agree" with an additional category "I don't know" included. This format was also applied to the environmental identity scale and parks attitudes scale.

Table 3.2 *Leisure Attitudes Items Used in the Final Survey Instrument*

Leisure Attitudes

a. Leisure pursuits are beneficial to individuals and society
b. Leisure pursuits contribute to one's health
c. Leisure pursuits increase one's happiness
d. Leisure increases one's work productivity
e. My leisure pursuits give me pleasure
f. I like my leisure pursuits
g. My leisure pursuits are fulfilling
h. I can be myself during my leisure
i. I feel guilty about enjoying in leisure
j. I spend considerable time and effort to be more competent in my leisure pursuits
k. I spend considerable money on my leisure pursuits
l. I engage in leisure pursuits even when I am busy
m. I give my leisure high priority among other pursuits

Measures of environment identity

The scale employed to measure respondents' environmental identity in this study was derived from Clayton's (2003) Environmental Identity (EID) scale, which was originally created to exam how individual's perception of environment was related to his/her self-identification. The EID scale consists of several carefully selected factors which were considered to be important in determining collective social identity. These factors were then operationalized in an environment related style: salience of identity was measured by an individual's interaction with nature (e.g., "I spend a lot of time in natural settings"); self-identification was measured by how the collectives with which the individual identifies are influenced by the nature (e.g., I think of myself as a part of nature, not separate from it); ideology is reflected in one's position in supporting environmental education and a sustainable lifestyle (e.g., "Behaving responsibly toward the Earth---living a sustainable lifestyle---is part of my moral code"); positive emotions were accessed by how the satisfaction and aesthetic appreciation for the nature can bring enjoyment ("I would rather live in a small room or house with a nice view than a bigger room or house with a view of other buildings"). Past interaction with nature ("I spent a lot my childhood playing outside") is also included in the scale considering that individual's environmental identity is strongly related to his/her experiences.

However, Clayton only tested her scale in the context of North America. She also indicated that the terms in the scale were mostly derived from North American culture and suggested that the meanings that a society gives to nature and to environmental issues may vary across cultures. Therefore a preliminary test of the environmental identity scale was administered to Chinese students at the University of Alberta. The process of the test is described later in this chapter.

Table 3.3 *Environment Identity Items Used in the Final Survey Instrument*

Environment Identity

a. I really enjoy spending time in nature areas such as parks and green spaces

b. Engaging in environmentally-friendly behaviour is important to me

c. I think of myself as part of nature, not separate from it

d. If I had enough time or money, I would certainly devote some of it to working for environmental causes

e. When I am stressed or upset, I can feel better by spending some time outdoors "communing with nature"

f. I spend a lot childhood playing outdoors

g. I feel that I receive spiritual sustenance from experiences with nature

h. Behaving responsibly toward the Earth – living a sustainable lifestyle – is part of my moral code

i. Learning about the natural world should be an important part of every child's upbringing

j. I would rather live in a small room or house with a view of nature than a bigger room or house with a view of other buildings

k. I would feel that an important part of my life was missing if I was not able to get out and enjoy nature from time to time

Measures of parks attitudes

Individuals' parks attitudes were measured through their perceived benefits for visiting parks. The scale applied to measure the perceived benefits of visiting parks in this study is mainly derived from Gómez's Benefits of Parks Scale (BEN). The scale consists of statement items about "interaction, family, children, escape, relaxation, exercising, and open space with respect to parks" (Gómez, 2006, p. 249). Respondents were asked to rate these benefits in a four-point Likert scale ranging from "1 –strongly disagree" to "4 – strongly agree" with an additional category "I don't know" included.

Gómez created the scale based on Iso-Ahola's Benefits of Leisure Scale (1980). Iso-Ahola proposed a motivation theory to explore the motivation of leisure and recreation behaviours (1980). The motives include four dimensions as personal seeking, personal escape, interpersonal seeking, and interpersonal escape. Snepenger et al. (2006) empirically tested the structure of Iso-Ahola's model in tourism context. The Cronbach's alphas for four dimensions ranged from 0.80 to 0.85, which indicateda good reliability of each dimension (DeVellis, 2003). Also, they found positive and moderate correlations among the four dimensions. The results demonstrated the applicability of Iso-Ahola's Benefits of Leisure Scale in a tourism context. These findings were consistent with Gómez's (2006) study.

Additionally, the researcher added four items to explore respondents' attitudes towards wilderness parks and highly developed parks. Previous research found that most Chinese prefer highly developed parks to wilderness parks since they are more familiar with this type of park (Hung, 2003). The underlining reason for this is the different titles, meanings, resources, and systems of parks in China compared to Canadian parks, which was discussed earlier in the literature review. Two of the four items asked respondents' preference between wilderness parks and highly developed parks directly: item (d) asked "I am not used to visiting wilderness parks" and item (i) asked "Compared to wilderness parks, I prefer to visit highly developed parks (e.g., amusement parks)". The other two items were statements with respect to the reasons that constrain Chinese respondents' visitation to wilderness parks, which are recognized by interviewers in Hung's (2003) qualitative study on Chinese Canadians' visitation to protected areas in the Vancouver area. Item (c) stated "I do not like to visit parks because parks did not offer some important facilities and services for daily life"; while item (g) indicated "I do not like visiting parks because I felt unsafe (e.g., due to wild animals)." These four items were treated as a sub-scale of the parks attitudes scale and randomly combined into the parks attitudes items that were derived from Gómez's (2006) Benefits of Parks Scale (BEN).

Though Gómez (2006) assessed his model with a minority group (i.e., Hispanics), the scale has not been tested among Chinese. This is also true for the scale items that measured attitudes toward wilderness parks. Hence the researcher performed a preliminary test of the parks attitudes scale among Chinese students at the University of Alberta. The process of the pre-test is described next in this chapter. The items that examined in the preliminary test were listed in Table 3.4. The reliability coefficient of the parks attitudes scale was only 0.44 in the test. After a review of the result, negative items were rephrased to positively-phrased items or were enhanced to improve clarity. Item (d)

was modified to "I am comfortable with visiting wilderness-oriented parks" and item (i) was adjusted as "I prefer to visit wilderness-oriented parks, rather than highly developed parks (e.g., sports fields or amusement parks)". Rather than including two negatively phrased statements from the original version, these two items were modified as two statements that are consistent in conveying positive feelings of visiting wilderness parks. The amendment aimed to reduce the possibility of confusing respondents. Item (c) was also changed to: "Parks offer all the facilities and services that I feel are important (e.g., washrooms, adequate staff)" and item (g) was revised to "Parks can be an unsafe place to visit (e.g., due to wild animals)". Table 3.5 provides a complete list of the parks attitudes items that were utilized in the final survey instrument.

Table 3.4 *Parks Attitudes Items Used in the Preliminary Test*

Parks Attitudes
a. Visiting parks improves people's health
b. Visiting parks enables me to enjoy nature
c. I do not like to visit parks because parks did not offer some important facilities and
    services for daily life
d. I am not used to visiting wilderness parks
e. Visiting parks allows an escape from my everyday routine
f. Parks provide a place for me to exercise
g. I do not like visiting parks because I felt unsafe (e.g., due to wild animals)
h. Visiting parks allows me to spend time with family and friends
i. Compared to wilderness parks, I prefer to visiting highly developed parks (e.g.,
    amusement parks)
j. I am comfortable visiting my neighbourhood park

Table 3.5 Parks Attitudes Items Used in the Final Survey Instrument

Parks Attitudes
a. Visiting parks improves people's health
b. Visiting parks enables me to enjoy nature
c. Parks offer all the facilities and services that I feel are important (e.g., washrooms, adequate
    staff)
d. I am comfortable with visiting wilderness-oriented parks
e. Visiting parks allows an escape from my everyday routine
f. Parks provide a place for me to exercise
g. Parks can be an unsafe place to visit (e.g., due to wild animals)
h. Visiting parks allows me to spend time with family and friends
i. I prefer to visit wilderness-oriented parks, rather than highly developed parks (e.g., sports fields
    or amusement parks)
j. I am comfortable visiting my neighbourhood park

For all the main scales used in this study, additional modifications were performed to how responses were collected. Namely a standardized 1 to 4 Likert type scale was utilized. This is due to a general tendency that the proportion of neutral response increases substantially if the questionnaire offers middlemost choice for respondents (Kalton, Grahan & Schuman, 1982). In particular, Si (2005) found that Asian respondents

(people from China, Japan and Hong Kong) are even more likely to choose middle responses than Western respondents (people from US, UK and Germany) in their "explicit midpoint response category (i.e., odd numbered scale)" (p. 404). According to Si (1990, as cited in Si, 2005), one of the cores of Confucian, "the middle way" proposes that people should stay in the middle positions and keep themselves from extremes. The different cultures and values may explain that Asian respondents have a greater tendency than Western respondents to choose the middle point of close ended questions when they are answering questionnaires. Therefore, even-numbered scales were used in this study instead of odd numbered scales. Each item was measured by a 4-point scale ranging from strongly disagree (1), somewhat disagree (2), somewhat agree (3) to strongly agree (4). Unlike the 10-point scale, the 4-point scale does not contain a category of neutral. The aim of the modification is to reduce the proportion of neutral answers that will be counted as missing values.

Measures of parks visitation and socio-demographic characteristics

Parks visitation patterns were measured through several different questions. The main concern of park visitation patterns is the amount of visitation. It was measured using two different measurements. The main indicator was the frequency of visitation to parks. Respondents were asked to indicate the frequency of visitation to local parks and more distant parks and protected areas respectively during three different periods: distant past (during respondents' childhoods), recent past (when respondents still lived in their country of origin) and currently (in the last year). The variable visits to parks in the last year was used as the dependent variable of parks visitation in the Chinese Canadians' parks visitation model. Additionally, respondents were asked to state the portion of their annual recreation and leisure time that was devoted to visiting local and distant parks respectively. Unlike the frequencies questions, the format of these two questions was open ended. These two questions were treated as supplementary questions to measure the amount of visitation to parks.

Parks visitation patterns were also measured by the respondents' participation in and preferences for different activities. A table provided a comprehensive list of activities (26 items) that are popular in parks in Question 29. Participation in each activity was measured by a four point scale ranging from "never" to "regularly". Respondents were asked to complete this record of participation during their childhoods as well as recent participation. Question 30 attempts to explore visitors' favourite activities and also their opinions on Canadian parks' services for delivering these activities, which featured a Likert-type scale format ranging from "1 –very unsatisfied" to "4 – very satisfied." Question 31 is an open ended question that asked the respondents to indicate activities that they would like to participate in the future if provided the opportunity. Lack of opportunities to engage in activities was measured with Question 32: "Is there any activity in parks that Chinese Canadians would like to engage in but the parks do not offer?"

Several other open ended questions appeared in the survey instrument. Question 26 asked the respondents to indicate the constraints that inhibit them from visiting local and distant parks respectively. In Question 27 participants were also asked to propose three things

that they would like to change about the services provided by local and distant parks respectively. Most respondents left this question blank in the preliminary test. They stated that it is hard for them to recall any recommendation on the improvements while filling out the questionnaire. Therefore the researcher gathered some common suggestions that visitors proposed from existing studies and added them as examples in Question 27 to remind the respondents, for instance, improvements relating to information centers, Chinese language services, signage in Chinese, maps, washrooms, parking lots, more entertainment facilities, and facilities for children, etc. Though this modification may have resulted in similar answers, it is believed it would be helpful to encourage Chinese respondents to write some suggestions on improvements since the answer rates of open ended questions is often low for Chinese respondents.

Gender, age, education level and household income were collected for describing the respondents' socio-demographic characteristics. As one of the objectives of this study is to investigate the relationship between marginality and the park visitation, education level and household income were measured as indicators of marginality variable in the model.

Translation

When conducting research with groups that have different cultures and languages, the researcher should consider an appropriate translation strategy. As Berry (1980) and Werner and Campbell (1970) proposed, the main concern is to make the instrument of "conceptual equivalence"; in other words, the translated version is supposed to express the same meanings of concepts and constructs as the original instrument. This means that the translation instrument is not only supposed to be linguistically and literally accurate, it also should be culturally correct. The cultural applicability of a instrument in a different cultural context is an important issue for researchers.

There are four methods for translating the survey instrument: one way translation; back translation; translation by committee; and decentring (McGorry, 2000). One way translation is the easiest approach that a translator translates the survey instrument from its original language to the target language independently (Marin & Marin, 1991). However, this method does not compare the translation with its original instrument therefore cannot prevent any inaccuracy or loss of information. Back translation addresses this limitation and enables the researcher to check the consistencies between the original instrument and the translated version (McGorry, 2000). During this type of translation process, one translator will first translate the survey instrument from its original language to the target language; afterwards the translated version of survey will be translated back to the original language by another translator independently. Therefore the researcher will have two versions of survey instrument in the original language, which allows the researcher to compare and check for inconsistencies and inaccuracies regarding to language and cultural issues. This method is the most recommended translation method (Marin & Marin, 1991). However, it is most costly and laborious.

Due to the lack of time and resources, this study applied the method of translation by committee. In this form of translation, two or more bilingual translators translate the survey instrument from its original language to target language independently (Marin &

Marin, 1991). Then two translators compare the two independent translation works and finalize a version based on their discussion. A third translator may participate in the discussion process and choose the most appropriate version. The weakness of this type of translation process is that the researcher cannot compare two different versions of translation instrument and work on the final survey version if he/she did not know the target language. Therefore there may be loss of information or inappropriate translation since these two translators are not professionals in the research area (McGorry, 2000). This shortcoming was avoided since the researcher was one of the two translators. Another translator was a Chinese graduate student whose major is in English and translation. They translated the survey instruments from English to simplified Chinese. Then these two translators discussed the two different translation versions and choose the most appropriate one. Afterwards the simplified Chinese version survey instrument together with its English version was sent to another bilingual scholar for final review. The researcher made some modifications based on the suggestions from the third scholar. Then the simplified Chinese version of the survey instrument was finalized for preliminary testing. Additionally, the simplified Chinese version (Mandarin) of the survey instrument was transformed into a traditional Chinese version (written Cantonese and Taiwanese). Besides some characters that are used to represent sounds phonetically, the written form of Cantonese is similar to Mandarin (Chen, 1999).The only difference between writing simplified Chinese (Mandarin) and traditional Chinese (traditional Cantonese) is the characters. Afterwards, the researcher conducted a preliminary test to examine the translated version of the survey instrument. The process is described next in this Chapter. Based on the recommendations from the respondents, some slight changes were made for the translated version of the survey instrument.

Pre-test

Pre-test of the environment identity and parks attitudes scales

The preliminary test of the survey instrument included two processes. A preliminary test of the environment identity and parks attitudes scales was administered to Chinese students at the University of Alberta, followed by a pilot test of the Chinese version of the survey instrument, which was also conducted at the University of Alberta. Also, a senior scholar participated in these two processes, reviewed the results and finalized the survey instrument. The leisure attitudes and acculturation scales had been used in previous studies of Chinese populations and therefore were not submitted to preliminary testing to ascertain their applicability to a Chinese population.

The main concern of the preliminary test was to examine the applicability of the environment identity and parks attitudes scales on Chinese population. With the exception of Winter and Chavez's (2008) study on White people as well as multiple ethnic groups, the environment identity scale had not been utilized in previous studies of minorities. In terms of the parks attitudes scale, though it had been tested on Hispanics (Gómez, 2006), it had not been tested on a Chinese cultural group. The researcher conducted convenience sampling of Chinese University of Alberta students. Students who could potentially be of Asian ancestry were asked to confirm that they were Chinese. If the answer was positive, the researcher briefly introduced herself and the project. Then

the respondents were asked whether they were willing to participate in the preliminary test of the two scale items. The test asked them to complete a two pages survey that contained an 11 item environment identity scale and a 9 item parks attitudes scale (see Appendix 5). Sixty-four Chinese students participated in the preliminary test of the scale items. They were from different faculties, and also from different education levels including undergraduate students and graduate students. The sample size was determined according to the guideline that the number of respondents should be five times the total number of the scale items (Tinsley & Tinsley, 1987, as cited in DeVellis, 2003).

For the environment identity scale, the Cronbach's alpha was .64. According to several researchers (Cortina, 1993; DeVellis, 2003), .60 is the lowest acceptable score for Cronbach's alpha. Most items were positively correlated with each. Additionally, there were no problems with the wording or expression reported by respondents in the pre-test. Therefore all the items in the scale were kept and utilized in the final questionnaire.

However, the Cronbach's alpha of the parks attitudes scale was only 0.44 in the preliminary test. Hence the scale was reviewed by the researcher and her supervisor. It was found that items (c), (d), (g) and (i) which were related to wilderness parks had lower correlations with other items in the scale. Also, the Cronbach's alpha would be 0.56 if these four items were deleted. Therefore some modifications were made for these four items. The items were re-examined in the preliminary test and the finalized items that were used in the final questionnaire are listed in Table 3.3, Table 3-4 Table 3.4and Table 3.5.

Pre-test of the translation version of the survey instrument

Another process of the preliminary test was to examine the Chinese version of the survey instrument for the purpose of checking inappropriate translation. Also, this step enabled an assessment of how long it would take respondents to complete the survey instrument. The researcher utilized distribution and scale testing techniques that were the same as the proceeding pre-test. Convenience sampling was conducted at the University of Alberta. Instead of a two pages questionnaire that only contains two scales in the former preliminary test of scale items, respondents were asked to fill out the complete survey instrument which was written in simplified Chinese (Mandarin) and printed on letter size paper; it was nine pages long. As states previously, the only difference between writing simplified Chinese and traditional Chinese are the characters, the examination of the simplified Chinese version can also ensure the accuracy of the traditional Chinese version. Twenty-five Chinese students agreed to participate in this pre-test. They were from different faculties, and also from different education levels including undergraduate students and graduate students. Respondents indicated several controversial expressions. The researcher then discussed these opinions with a senior bilingual scholar and made some slight modifications.

Additionally, the time required for accomplishing the questionnaire was 15 to 25 minutes according to the 25 respondents' answer; and most respondents reported that the questionnaire was too long. Greer (2000) and Hager (2003) found that participation rates would be higher for those questionnaires that are shorter, less complicated and with fewer

pages. Therefore, the survey was printed on double sided legal sized (14"×8") paper instead of letter sized paper. Hence a three page, double-sided and legal sized questionnaire was presented to the final participants.

Sampling

Sampling sites and sampling size

To make this study more applicable to all protected area managers and researchers, the researcher surveyed residents of three Canadian cities: Vancouver, Toronto and Edmonton. As described in the literature review, Toronto and Vancouver rank first and second respectively as areas of residence of Chinese immigrants. Forty percent and 33% of Chinese immigrants reside in Toronto and Vancouver respectively. In other words, nearly three-quarters of Chinese immigrants are residents of Canada's two largest metropolitan areas (Statistics Canada, 2005). Montreal, Calgary and Edmonton are the other three largest residence areas of Chinese immigrants, which account for 5%, 5% and 4% of Chinese population respectively. Since these proportions are very close and the researcher is located at Edmonton, Edmonton was chosen as the third sampling city.

According to Pallant (2005), the sample size determines the generalizability of the study results. Though different instructions are found in previous literature to guide researchers to calculate how many cases are needed for multiple regression analyses, Tabachnick and Fidell's (2001, p.117) formula for computing the number of required cases is most widely recognized and utilized: $N > 50 + 8$ x the number of independent variables (Pallant, 2005). As there are six independent variables in this study, 98 cases was the minimal number required. The researcher set a 200 respondent minimum for each city so as to have a total sample size of at least 600. This would be adequate for the multiple regression analysis, and also for potential statistic comparison analysis between cities. Additionally, the increased number of cases was pursued to potentially obtain an adequate amount of samples from three sub cultural groups: Mainland, Hong Kong, and Taiwan for the purpose of comparison study among different sub cultural groups at a later time.

Sampling method

The initial sampling method was telephone sampling which featured a stratified systematic sampling method. However, the sampling method was changed to convenience sampling because the response rate was much lower than expected.

During the telephone sampling process, potential participants were randomly selected by their Chinese surnames from a city's telephone directory. Then phone calls were made to recruit potential participants and self-administered questionnaires were sent to those who agreed to participate. A list which documents the 100 most common Chinese names ("The Hundred," 2002; as cited by Deng, 2004) was used to identify potential Chinese Canadian participants. It was anticipated that up to 800 residents would have to be contacted by phone and asked to participate in the study to achieve a final sample of 200 respondents from one city. During three weeks of dialling, 500 residents were contacted by telephone but only 56 people agreed to participate. The outcome of the telephone sampling was compared with Deng's (2004) stratified systematic sampling among

Chinese residents living in Edmonton. The comparison is represented in Table 3.6. The response rate (11.0%) was much lower than Deng's (2004) (37.2%). The low response rate is mainly attributed to the higher no answer rate (44.2%) compared to that to Deng's (16.2%); though each telephone number was tried four times during different times of the day and evening and on weekdays and weekends. The remedy to the low response rate was either trying each telephone number more times or trying more new numbers, both of which, however, would be very time consuming. One more concern was that the actual return rate could also be lower than the expected rate as reported in Deng's (2004) research.

Table 3.6 *Comparison of the outcome of telephone surveying between Lin's and Deng's study*

	Lin's study	Deng's study
Agree to participate	11.0%	35.0%
Reject	25.9%	20.0%
Cannot communicate	2.2%	8%
No answer	44.2%	16.2%
Wrong number	13.6%	10.2%
Wrong group	2.8%	4.7%
Other	0.3%	3.7%

As Fowler (1993) suggested that the availability of resources (e.g., money, time) is one of the keys for deciding final a sampling method. Due to the limited time, the researcher changed the sampling method to convenience sampling, which is simpler, faster and more cost-effective (Ferber, 1977). Gómez (2006) also applied convenient sampling method to examine the ethnicity and public recreation participation (EPRP) model among Puerto Ricans. Also, several other researchers chose convenient sampling to study Chinese minorities' leisure participation (Tsai, 2000; Yu & Berryman, 1996).

However, convenience sampling cannot ensure that each member of the population has an equal probability of being selected hence the result is limited in generalizability (Simon, 2002). To address this, a comparison of the study's sample with known characteristics of Chinese Canadians collected by Statistics Canada in the 2006 Census was undertaken. Also, two guidelines were used to direct the surveying process, which helped to increase the diversity of respondents. One was that the researcher considered demographic characteristics (e.g., gender, age, etc.) when sampling the targeted population to achieve the diversity; the other is that the surveys were conducted at varied times and locations.

The researcher spent 10 days in Toronto (from August 25th to September 3rd), 9 days at Vancouver (from September 15th to 23rd) and 11 days at Edmonton (from August 11th to 16th and from November 11th to 15th). Survey distribution occurred on weekdays and also

weekends. Sampling times were from 9am to 7pm. Sampling occurred at popular gathering places for Chinese Canadians. The sampling locations at Toronto included the Chinatown area, Pacific Mall, Market Village, Chinese community centers, local parks, churches, the campus area of University of Toronto and the Taiwan Cultural Festival. Vancouver's samples were conducted at Aberdeen Center, Metro Town Shopping Mall, Crystal Shopping Mall, Richmond T&T Supermarket and the Richmond public library. The researcher conducted Edmonton's samples at Chinatown area, West Edmonton Mall, Northgate T&T Supermarket, churches, and a fundraising event for Taiwan.

Three paged, double sided questionnaires were presented to participants. A monetary incentive was applied to increase the response rate as research supports that incentives (e.g., cash payments, gifts) improves survey response rates (e.g., Armstrong, 1975; Dillman, 2000; Groves & Couper, 1998; Singer, Van Hoewyk, Gebler, Raghunnathan, & McGanagle, 1999; Yu & Cooper, 1983). The underline principle that drives increased response rates is that when individuals receive a positive behaviour, for example, gifts, or favours, they will feel obligated to respond to it in a positive way as a return (Cialdini et al. 1975; Regan, 1971). This logic was labelled as "reciprocation" by Groves and his colleagues (1992). Groves et al. (1992) also suggested several implications under the guideline of reciprocation norm. Two of them were applied to the sampling process. One is that the incentive offered prior to the survey request would result in higher response rates than an offer after; the other is that the presentation of an information letter or brochures will increase positive response, especially when the information has value for the respondent. Moreover, the incentives are believed to reduce the rate of respondents giving up in the middle of completing the survey or interview process (Göritz, 2004). Thus the researcher provided an information letter when introducing the project to the participants and also informed them that they would be offered a 5 dollar gift card as compensation if they were willing to participate in the survey. According to Willimack, Schuman, Pennell and Lepkowski (1995), the application of the monetary gift may increase the sample ineligibility. Iincentives might also draw a particular group of respondents and thus bias the sample's composition (Göritz, 2004). Additionally, participants with incentives are more likely to complete the research process quickly than participants without incentives (Göritz, 2004; Willimack, Schuman, Pennell, & Lepkowski, 1995). Though Willimack et al.(1995) did not find any evidence to support that the incentives increased measurement errors; Göritz (2004) indicated that the risk is that some participants may "fill in useless data to get to the end of the survey quickly in order to be eligible for the incentive" (p. 329).

Convenience sampling process

The researcher politely asked every third person who could potentially be of Asian ancestry to identify whether they were Chinese. If the answer was positive, the researcher briefly introduced herself and also the project and an information letter was handed to the potential participant (for details see Appendix 1). Also, the researcher informed respondents that they would receive a 5 dollars gift card as compensation if they were willing to participate in the study. If the respondents agreed to participate, the researcher offered them the choice of completing an English, Simple Chinese or Tradition Chinese version of the questionnaire. Then the researcher handed them the questionnaire in the

language they preferred and a pen. Then the researcher waited for them to complete the questionnaire. When they finished the survey, the researcher provided a gift card and asked them to sign their name and the date to show that they received the money (see Appendix 3). If the respondent declined to participate, the researcher asked their reason for choosing not to participate and moved to the next potential participant. The researcher recorded the non-response into a non-response tally (see Appendix 4).

Data Analysis

Data analysis was conducted using SPSS 17.0. Data were firstly coded and entered into the SPSS data file. Data analysis included basic descriptive statistics and correlation analysis followed by multiple regression analysis which was used to examine the model. Respondents' comments from open questions were also analysed and summarized. This process is described in the next chapter.

Ethnic Issues

The researcher informed participants several concerns about the ethnic issues in the information letter. Informed consent was obtained through explicit oral consent and by overt action. By completing the survey the participant indicated that he/she agreed to participate in this study and share the information with the researcher. Also, the confidentiality of all the information gathered in the questionnaire was guaranteed. The project was reviewed and approved by the University of Alberta's Faculties of Physical Education and Recreation (PER) and Agricultural, Life, and Environmental Sciences (ALES) Research Ethics Board.

Chapter 4: Research Results

Organizing, Screening and Cleaning the Data

Checking errors

A total of 1512 people were asked and 636 of them agreed to participate in. The response rate was 42.1%. Most people who declined to participate stated it was due to time constraints. Some of them said that they were not interested in this study. Finally, a total of 636 surveys were collected. Twelve respondents were excluded because of a high number of missing values or incomplete pages. A total of 624 questionnaires were input into an SPSS file; 205 respondents were from Toronto, 219 were from Vancouver and 200 were from Edmonton. Before the data analysis, several steps were taken to organize, screen and clean the data. First, every variable in questionnaire was checked for outliers and extreme values. A problem was found with Question 25. The question asked respondents to report what percentage of their leisure time was devoted to visiting local and distant parks. Some respondents reported a high percentage of leisure time for visiting both local and distant parks which made the sum of the two percentages equaled to or exceeding100%. Since it is almost impossible for individuals to devote all of their leisure time to visiting parks, those respondents likely misunderstood the question. Hence all the answers that had the sum equal to or larger than 100% were recoded as missing values. Though the elimination increased the amount of missing values, it made the results more trustworthy.

Recoding and reversing items

All the variables that had the choice of "I do not know" were recoded into a new variable. "I do not know" responses were recoded into missing values. Then all the negatively worded items were revised. There were 14 items in the acculturation scale which were negatively word. Each of them was paired with another item that was positively worded. For example, item 1 was worded in a negative direction (high score signifies low acculturation level) "I prefer to speak and write in Chinese"; while item 2 was positively worded (high score signifies high acculturation level) "I prefer to speak and write in English." These negatively worded items are used in survey instruments to help prevent response bias. All items were re-scored in a consistent way so that high scores indicate high levels of acculturation (Pallant, 2005); half of the 14 items that were negatively worded were reversed before further statistical analysis was undertaken. Also, the item (i) "I feel guilty about enjoying in leisure" in the leisure attitude scale and item (g) "parks can be an unsafe place to visit (e.g., due to wild animals)" in parks attitudes scale were reversed.

Missing values

As for missing values, most questions had less than 5% of missing values and a few had 6% missing values. Tabachnick and Fidell (2007) indicated that if a large data file has 5% or less missing values and the missing values appear randomly, the problems are unlikely to be serious and any method is applicable. Hence those variables with missing values that totaled less than 5% or 6% of their entire responses were ignored.

However, there were some items that had high missing values. Household income, which had 38.5% missing values, was one of these variables. Thirty-two percent of respondents chose "I prefer not to answer." The possible reason for this is that income is considered a private and sensitive issue, especially in Chinese culture. Other items that had high missing values appeared in the visitation patterns section. Question 25 asked respondents to report what percentage of their leisure time was devoted to visiting local and distant parks respectively. As stated above, some answers were recoded as missing values since some respondents may have misunderstood the question. The replacement increased the percentage of missing values found in results from Question 25(a) from 7.7% to 21.2% and 25(b) from 9.8% to 23.2%. Question 25's rate of missing values was similar to Questions 21 and 22, Questions 21 and 22 which asked respondents' frequencies of visiting local and distant parks in their country of origin (prior to immigration to Canada), had 15.4% and 21.8% missing values respectively. Question 23 and 24 which ask about respondents' frequencies of visiting local and distant parks last year had 9.3% and 16.0% missing values respectively. The reason might be that it was difficult for participants to remember or calculate the exactly amount of visitation to parks.

Reliability of the scale

A scale's internal consistency is one of the main concerns among different aspects of the reliability (Pallant, 2005). Cronbach's alpha coefficient is the most popular indicator used to test the internal consistency (Pallant, 2005). Several researchers suggested that a Cronbach's alpha coefficient value of above .7 is ideal for a scale (Pallant, 2005). The Cronbach's alphas of the acculturation, leisure attitudes and environment scales were .78, .80 and .88 respectively, which suggested those scales had high reliability.

In terms of the leisure attitudes scale and the parks attitudes scale, both of them had a negatively worded item; in the leisure attitudes scale the item was "I feel guilty about enjoying in leisure" and in the parks attitudes scale the item was "parks can be an unsafe place to visit (e.g., due to wild animals)." Both of them reduced the Cronbach's alpha of their scales. Because these two items: 1) did not originally appear in the Ragheb and Beard's (1982) leisure attitude scale and Gómez's (2006) parks attitudes scale; 2) had low correlation values with other items in the scale (.09 and .07 respectively, as depicted in Table 4.1 and Table 4.2; and 3) were the only negatively worded item in each scale that might confuse respondents, they were removed from each scale. As a result the Cronbach's alpha of the leisure attitudes scale increased from .80 to .82 and the Cronbach's alpha of parks attitudes scale increased from .79 to .82.

Table 4.1 *Cronbach's Alpha and Correlation Values for the Leisure Attitudes Scale Items*

Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
a. Beneficial	.54	.78
b. Health	.53	.79
c. Happiness	.55	.78
d. Work productivity	.48	.79

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
e. Pleasure	.63	.78
f. Like	.66	.77
g. Fulfilling	.58	.78
h. Be myself	.52	.78
i. Guilty	.09	.82
j. Spend time effort	.42	.79
k. Money	.26	.81
l. Engage busy	.43	.79
m. Priority	.41	.79

Note: The full phrasing for items included in this scale can be read in Appendix 2.

Table 4.2 *Cronbach's Alpha and Correlation Values for the Parks Attitudes Scale Items*

Items	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
a. Health	.59	.76
b. Enjoy Nature	.69	.75
c. Facilities Service	.40	.78
d. Comfortable wilderness	.60	.75
e. Escape	.50	.77
f. Exercise	.58	.76
g. Unsafe	.07	.82
h. Family and friends	.52	.76
i. Prefer wilderness park	.39	.78
j. Comfortable neighborhood park	.48	.77

Note: The full phrasing for items included in this scale can be read in Appendix 2.

Data Analysis

Before correlation analysis and multiple regression analysis, demographic characteristics of respondents were compared between the three cities and three questionnaire language groups. The comparison enabled the researcher to better understand the sample. Also, it provided insights into sub group differences of Chinese populations by different region and languages, which will be useful for practitioners. Finally, the demographic characteristics of the sample were compared with documented Chinese Canadian demographics.

Several statistical analysis methods were employed to examine the relationship between the variables in the model. These included basic descriptive statistics, correlation analysis

and multiple regression analysis. Following the statistical analysis, the results from secondary data regarding to respondents' activities participation in parks are presented at the end of this chapter.

Demographic characteristics of three samples segmented by city

A total of 624 questionnaires were input into the SPSS file, of which 205 were from Toronto, 219 were from Vancouver and 200 were from Edmonton. The comparisons of the demographic characteristics are represented in Table 4.3. Of the 205 Toronto participants, 1.5% (n=3) of them did not indicate their gender. Of the remaining 202 participants, 55.4% (n=112) were male and 43.9% (n=90) were female. The majority of Vancouver and Edmonton's respondents were female, accounting for 57.4% (n=124) and 53.3% (106) respectively.

The average age of Toronto's respondents was 36 (SD=1.6) years of age. As for Vancouver and Edmonton, the mean of age was 34 (SD=1.13) and 39 (SD=1.71) years of age respectively. Thirty-five to 54 years old was the largest age group for all three cities. However, their ratios were different: half of Vancouver's respondents (50.5%) reported their age between 35 and 54 years; Edmonton had 37.6% of respondents in this age group; while only 29.5% of Toronto's respondents were 35 to 54 years old.

As for level of education, more than half of Toronto's respondents (56.9%, n=113) had a university bachelor degree (41.8%, n=82) or graduate level degree (15.1%, n=31). Seventeen percent (n=33) of respondents had a college diploma, 23.0% (n=45) of them had a high school diploma and only a small percent (2.6%, n=5) of respondents had an elementary school diploma. Vancouver and Edmonton's participants had similar education characteristics as Toronto. The majority of Vancouver's respondents (62.1%, n=133) had a university bachelor degree (49.5%, n=106) or graduate level degree (12.6%, n=27). Twenty-one percent (n=44) of participants had a college diploma, 16.4% (n=35) of them had a high school diploma and only a small percent (0.9%, n=2) of respondents had an elementary school diploma. In terms of Edmonton, 61.3% (n=119) participants had a university bachelor degree (33.5%, n=65) or higher (27.8%, n=54), 17% (n=32) of participants had a college diploma, 20.1 % (n=39) of them had a high school diploma or lower (2.1 %, n=4).

A great number of the respondents refused to indicate their household income, which resulted in a high percentage of missing values for all the three cities. The ratios of missing values for this question were very similar: 39.5%, 39.3% and 36.5% for Toronto, Vancouver and Edmonton respectively. Of the remaining respondents, Toronto and Vancouver's respondents shared similar features. Both cities had the largest group reporting household income as between $20,000 and $39,999: 25.8% (n=32) for Toronto and 27.1% (n=36) for Vancouver. Household income of $40,000 to $59,999 was the second most frequently reported category with 19.4% (n=24) for Toronto and 23.3% (n=31) for Vancouver respondents. For Edmonton, most respondents reported their income in the first five categories and the ratios for each category were very even.

Table 4.3 *Comparison of Demographic Characteristics of Three Cities*

	Toronto	Vancouver	Edmonton
Gender			
Male	112(55.4)	92 (42.6)	93 (46.7)
Female	90 (44.6)	124 (57.4)	106 (53.3)
N	202	216	199
Age			
16-17	6(3.2)	7(3.3)	8(4.1)
18-24	55(28.9)	40(18.7)	30(15.5)
25-34	40(21.1)	50(23.4)	49(25.3)
35-54	56(29.5)	108(50.5)	73(37.6)
55-64	20(10.5)	4(1.9)	13(6.7)
>65	13(6.8)	5(2.3)	21(10.8)
Mean	36.0	34.2	39.2
N	190	214	194
Education			
Elementary school	5 (2.6)	2 (.9)	4 (2.1)
High school	45 (23.0)	35 (16.4)	39 (20.1)
College diploma	33 (16.8)	44 (20.6)	32 (16.5)
University bachelor	82 (41.8)	106 (49.5)	65 (33.5)
University graduate	31 (15.8)	27 (12.6)	54 (27.8)
N	196	214	194
Income			
Less than $20,000	21 (16.9)	18 (13.5)	15 (11.8)
$20,000 - $39,999	32 (25.8)	36 (27.1)	21(16.5)
$40,000 - $59,999	24 (19.4)	31 (23.3)	20 (15.7)
$60,000 - $79,999	20 (16.1)	19 (14.3)	22 (17.3)
$80,000 - $99,999	10 (8.1)	20 (15.0)	19 (15.0)
$100,000 - $119,999	6 (4.8)	5 (3.8)	16 (12.6)
$120,000 - $139,999	6 (4.8)	3 (2.3)	8 (6.3)
More than 140,000	5 (4.0)	1 (20.6)	6 (4.7)
N	124	133	127
Missing value	81(39.5)	86(39.3)	73(36.5)

Note: Percentages appear in parentheses.

The ethnicity characteristics were measured by four questions. The results, grouped by city, are presented in Table 4.7. First, respondents were asked to identify their cultural and sub-cultural identity. They were also asked about their residency status to identify whether they were the first, second or more than second generation immigrants. The last question is only for respondents who identified themselves as first generation immigrants.

It asked how long the respondents had lived in Canada. As for results, the majority of the respondents from the three cities recognized themselves as Chinese or Chinese Canadian (see Table 4.4). Only a small percentage of them recognized themselves as Canadian. The result is consistent with the respondents' residency status as more than 80% of the three cities' respondents reported that they were the first generation immigrants, only about 10% of them indicated that they were the second generation of immigrants and very few of them (see Table 4.5) reported that their family had lived in Canada for several generations. The percentage of native born Chinese of the sample was less than Canada's Chinese population as a whole[5]. A possible reason is that most samples were conducted at popular Chinese gathering places where new immigrants were more likely to gather. As for those first generation immigrants, the average number of years that respondents stayed in Canada was 13.2, 10.6 and 11.8 years for Toronto, Vancouver and Edmonton respectively. As for sub-cultural identity, around 60% of the three cities' respondents reported coming from Mainland China. Approximately 20% of them came from Hong Kong. Of the remaining respondents, 12.2% (n=24) of Toronto's and 13.1% (n=27) of Vancouver's respondents reported that they came from Taiwan while only 3.3% (n=6) of Edmonton's respondents came from Taiwan.

Table 4.4 *Cultural identity characteristics of three cities*

Cultural identity	Toronto	Vancouver	Edmonton
Canadian	11 (5.5%)	7 (3.3%)	0
Chinese	91 (45.3%)	118 (54.9%)	106 (56.4%)
Chinese Canadian	99 (49.3%)	89 (40.6%)	81 (43.1%)
Other	0	1 (0.5%)	1 (0.5%)
Valid Total	201	215	188

Table 4.5 *Residency status of three cities*

Residency status	Toronto	Vancouver	Edmonton
I immigrated to Canada from another country	161 (84.3%)	185 (87.7%)	153 (82.3%)
My parents immigrated to Canada from another country	30 (15.7%)	25 (11.8%)	29 (15.6%)
My family has lived in Canada for several generations	0	1 (0.5%)	4(2.2%)
Valid Total	191	215	186

[5] In 2000, 25% of Chinese in Canada were native born (Statistics Canada, 2006).

Table 4.6 *Years in Canada of three cities*

Year	Toronto	Vancouver	Edmonton
Mean	13.2 (SD=1.1)	10.6 (SD=8.6)	11.8 (SD=9.8)
Mode	10	5	6
Minimum	1	1	1
Maximum	59	57	43
Total Valid	180	202	164
Missing	25	17	36
Total	205	219	200

Table 4.7 *Sub-cultural identity characteristics of three cities*

Sub-cultural identity	Toronto	Vancouver	Edmonton
Mainland	119 (60.7%)	121 (58.7%)	120 (65.9%)
Hong Kong	44 (22.4%)	54 (26.2%)	37 (20.3%)
Taiwan	24 (12.2%)	27 (13.1%)	6 (3.3%)
Other	9 (4.6%)	4 (1.8%)	19 (10.4%)
Valid Total	196	215	182

Demographic characteristics of three samples segmented by questionnaire language

A total of 178 respondents chose to complete the English version of survey instrument. The Simplified Chinese version was completed by 326 respondents and the Traditional Chinese version was completed by 122. Of the 178 participants who chose English as their survey language, 60.7% (n=108) were male and 39.3% (n=70) were female. While the majority (59.0%, n=191) of respondents who selected the Simplified Chinese version of the survey were female. Fifty percent (n=61) of respondents who completed the Traditional Chinese survey instrument were female and 48.4% (n=59) of them were male.

Table 4.8 *Gender distribution of three languages*

Gender	English	Simplified Chinese	Traditional Chinese
Male	108 (60.7%)	128 (39.5%)	61 (50.0%)
Female	70 (39.3%)	191 (59.0%)	59 (48.4%)
Total Valid	178 (28.9%)	319 (51.7%)	120 (19.4%)

The average age of the 172 English survey instruments' respondents who reported their age was 31 (SD=13.3) years of age while the Simple Chinese survey instrument respondents were an average of 38 (SD=15.0) and the Traditional Chinese survey instrument respondents averaged 39 (SD=15.7) years of age.

Table 4.9 *Age distribution of three languages*

Age	English	Simplified Chinese	Traditional Chinese
Mean	31.2 (SD=13.3)	38.3 (SD=15.0)	39.1 (SD=15.7)
Mode	18	40	21
Total Valid	172	313	115
Missing	6	13	7
Total	178 (28.4%)	326 (52.1%)	122 (19.5%)

As for education, more than half of English survey instruments respondents (58.3%, n=102) had a university bachelor degree (40.0%, n=70) or graduate level degree (18.3%, n=32). Eleven percent (n=20) of respondents had a college diploma, 28.6% (n=50) had a high school diploma and only a small percent (1.7%, n=3) of respondents only had an elementary school diploma. Simplified and Traditional Chinese survey instrument participants had similar education characteristics as the English version survey instrument participants. The majority of Simplified Chinese survey instruments' respondents (65.6%, n=205) had a university bachelor degree (44.4%, n=139) or graduate level degree (21.1%, n=66). Nineteen percent (n=60) of participants had a college diploma, 13.1% (n=41) had a high school diploma and only a small percent (2.2%, n=7) of respondents had an elementary school diploma. In terms of Traditional Chinese survey instruments' participants, 47.6% (n=58) of participants had a university bachelor degree (36.1%, n=44) or higher (11.5%, n=14), 23.8% (n=29) of participants had a college diploma, 23.0 % (n=28) of them had a high school diploma or lower (0.8 %, n=1).

Table 4.10 *Education distribution of three languages*

Education level	English	Simplified Chinese	Traditional Chinese
Elementary school	3 (1.7%)	7 (2.2%)	1 (0.8%)
High school	50 (28.6%)	41 (13.1%)	28 (23.0%)
College diploma	20 (11.4%)	60 (19.2%)	29 (23.8%)
University bachelor degree	70 (40.0%)	139 (44.4%)	44 (36.1%)
University graduate degree	32 (18.3%)	66 (21.1%)	14 (11.5%)
Total	175 (28.7%)	313 (51.3%)	122 (20.0%)

In terms of household income, the two most frequently reported categories that the Simplified and Traditional Chinese survey instrument participants indicated was between $20,000 and $39,999 and between $40,000 and $59,999. In detail, 27.4% (n=66) of Simplified Chinese survey instruments participants had a household income of between $20,000 and $39,999, and 17.9% (n=36) of participants had a household income of between $40,000 and $59,999. In the case of Traditional Chinese survey instrument participants, 23.9% (n=17) of participants had a household income of between $20,000 and $39,999, 22.5 % (n=16) of participants had a household income of between $40,000 and $59,999. In the case of English version survey instruments participants the most frequently reported categories of household income were between $40,000 and $59,999 (20.5%, n=23) and income of between $60,000 and $79,999 (18.8%, n=21). It is worth mentioning that a large percentage of the respondents preferred to not answer this question (34.4%, n=201), which resulted in a high portion of missing values (38.5%, n=240). Therefore the results might have a bias and may not represent the actual distribution of the sample's household income. Table 4.11 presents more details of the distribution of household income based on survey instrument language.

Table 4.11 *Income distribution of three languages*

Household Income	English	Simplified Chinese	Traditional Chinese
Less than $20,000	16 (14.3%)	26 (12.9%)	12 (16.9%)
$20,000 - $39,999	17 (15.2%)	66 (27.4%)	17(23.9%)
$40,000 - $59,999	23 (20.5%)	36 (17.9%)	16 (22.5%)
$60,000 - $79,999	21 (18.8%)	33 (16.4%)	7 (9.9%)

$80,000 - $99,999	12 (10.7%)	26 (12.9%)	11 (15.5%)
$100,000 - $119,999	11 (9.8%)	12 (6.0%)	4 (5.6%)
$120,000 - $139,999	7 (6.2%)	7 (3.5%)	3 (4.2%)
More than 140,000	5 (4.5%)	6 (3.0%)	1 (1.4%)
Valid Total	112	201	71
Missing Value	66	123	51
Total	178 (28.5%)	324 (51.9%)	122 (19.6%)

Comparison of demographic characteristics with Chinese Canadian population

Table 4.12 compares the demographic characteristics of the current study's sample with demographic characteristics of Chinese Canadians (Statistics Canada, 2006). As the table depicts, the residency status and the gender characteristics of the current sample is very similar to Chinese Canadians in general. Both the majority of the sample population and the total Chinese Canadian population reported themselves as first generation (around 84%); only approximately 15% of them indicated that they were native born. The gender distribution is also very similar. Females and males are almost equal while females are slightly greater in number than males. As for age distribution, more than half (52.8%) of the current study's respondents was between 25 and 44 years old which is greater than the proportion (31.7%) of Chinese Canadians who fall within this age category. The second largest age group of the current sample was between 15 to 24 years (24.2%) compared to (15.4%) of the Canada's Chinese population. In the other words, the current sampling has a greater proportion of respondents between 25 and 45 years of age than Chinese Canadians in general, which is the age group that is the main labour force for Canada. Another feature is that the current study's respondents reported higher education levels than Canada's Chinese population. More than half (58.3%) of the respondents reported that they had a university bachelor degree or higher, which is nearly twice that (31%) of the general Chinese Canadian population (Statistics Canada, 2006b). On the other hand, 30% of Chinese Canadians' education level was less than high school level; compared to that (1.8%) of the current study's respondents. In conclusion, the respondents of the current study are more likely to have a higher education level than the general Chinese Canadian population.

Table 4.12 *Comparison of Demographic Characteristics: Study sample with general Chinese Canadian population*

	Lin's study sample	Chinese Canadians (Canada Census)
Residency status		
First generation	84.9%	84.6%
Second generation and over	15.1%	15.4%
Gender		
Male	48.1%	47.9%
Female	51.9%	52.1%
Age		
0-14	na	17.3%
15-24	24.2%	15.4%
25-44	52.8%	31.7%
45-64	16.2%	24.9%
65-74	3.8%	6.3%
75 and over	2.7%	4.4%
Education		
Less than high school	1.8%	30%
High school	11.9%	24%
College diploma	18.0%	15%
University degree or over	58.3%	31%

Note: Only respondents 18 years of age or older were survey's for the current (Lin's) study.

Demographic characteristics overall

The previous sections described differences of the study sample based on city where data was collected and the language of the survey instrument. The differences between the study sample and total Chinese Canadians in general were also stated. After significant differences between these groups were identified, a more informed analysis of the fully combined data set was undertaken. Gender, age, education level and household income were included in the demographic section. These characteristics are summarized in Table 4.13. The percentages of male and female participants were almost equal: 48% (n=297) of respondents were male and 51.9% (n=320) of respondents were female. The largest age group was 35 to 54 years old (39.6%, n=237). The second largest age group was 25 to 34 years old (23.2%, n=139). In terms of education, more than half of the respondents (58.4%, n=365) had either a university bachelor degree (40.5%, n=253) or graduate level degree (17.9%, n=112). Eighteen percent (n=109) of the respondents had a college diploma, 19% (n=119) of them had a high school diploma and a small portion (1.8%, n=11) of the respondents only had elementary school diploma. As for household income,

a large percent of the respondents preferred to not answer this question (34.4%, n=201), which resulted in a high portion of missing values (38.5%, n=240) and for the rest of respondents (n=384), more than one-third of them reported a low household income (37.3%, n=143) of either less than $20,000 (14.1%, n=54) or between $20,000 and $39,999 (23.2%, n=89).

Table 4.13 *Demographic characteristics of three cities in total*

Gender (n=617)

Female	Male
320	297
(51.9)	(48.1)

Age (n=598)

16-17	18-24	25-34	35-54	55-64	>64
21	125	139	237	37	39
(3.5)	(20.9)	(23.2)	(39.6)	(6.2)	(6.5)

Education(n=604)

Elementary school	High school	College diploma	University bachelor degree	University graduate degree
11	119	109	253	112
(1.8)	(19.1)	(18.0)	(40.5)	(17.9)

Income (n=384)

<$20,000	$20,000-$39,999	$40,000-$59,999	$60,000-$79,999	$80,000-$99,999	$100,000-$119,999	$120,000-$139,999	>$140,000
54	89	75	61	49	27	17	12
(14.1)	(23.2)	(19.5)	(15.9)	(12.8)	(7.0)	(4.4)	(3.1)

Note: Percentages appear in parentheses.

Ethnicity characteristics overall

The ethnicity characteristics were measured by four questions. The results are represented in Table 4.14. First, respondents were asked to identify their cultural identity and sub-cultural identity. They were also asked about their residency status to identify whether they were the first generation, second generation, or if their families had lived in Canada for more than two generations. The last question was only for respondents who identified themselves as first generation immigrants. It asked how long the respondents had lived in Canada. As for results, more than half of the respondents (52.2%, n=315) recognized themselves as Chinese and almost half of them (44.5%, n=269) identified themselves as Chinese Canadian. Only a small percentage of them (3.0%, n=18) recognized themselves as Canadian. The result is consistent with the respondents' residency status as 84.9% (n=449) of the respondents reported that they were the first generation immigrants, only

14.3% (n=84) of them indicated that they were the second generation of immigrants and .9% (n=5) of them reported that their family has lived in Canada for several generations. The percentage of Chinese born in Canada in the sample is less than the portion of Chinese Canadians (in general) born in Canada[6]. The possible reason for this is that most samples were conducted at popular Chinese gathering places where it was more likely that the interviewers would intercept new immigrants. As for those first generation immigrants, 28.4% (n=155) of them reported themselves as recent immigrants that had only lived in Canada five years or less than five years. Almost half of them (45.4%, n=248) had spent 6 to 15 years in Canada. Of the remaining respondents, 16.7% (n=91) reported that they had stayed in Canada between 16 to 25 years or even longer (9.5%, n=52).

Table 4.14 *Ethnicity and sub-cultural identities*

Cultural identity (n=604)

	Canadian	Chinese Canadian	Chinese	Other	
	18	269	315	2	
	(3.0)	(44.5)	(52.2)	(.3)	

Sub-cultural identity (n=584)

	Mainland	Hong Kong	Taiwan	Other	
	360	135	57	32	
	(61.6)	(23.1)	(9.8)	(5.5)	

Residency status (n=588)

	I immigrated to Canada from another country	My parents immigrated to Canada from another country	My family has lived in Canada for several generations	
	449	84	5	
	(84.9)	(14.3)	(.9)	

Years in Canada (M=11.8, n=546, SD=9.7)

	1-5 Years	6-15 Years	16-25 Years	>25 Years	
	155	248	91	52	
	(28.4)	(45.4)	(16.7)	(9.5)	

Note. Percentages appear in parentheses.

Frequencies of visiting parks

The results of park visitation patterns are summarized in Table 4.15. In terms of park visitation patterns, respondents were first asked to report their frequency of visiting parks.

---

[6] In 2000, 25% of Chinese in Canada were native born (Statistics Canada, 2006b; Statistics Canada, 2006c).

This included their frequency of visiting parks during childhood, the frequencies of visiting local and distant parks in their original country and also how often they visited local and distant parks last year. They were asked to report what percentage of their leisure time was spent visiting parks. As for the frequency of visiting parks during childhood, almost three-quarters of the respondents visited parks often as a child. Almost half of the respondents (48.6%, n=288) reported that they visited parks a lot during childhood. The second largest group of respondents (24.1%, n=143) reported that they visited parks at least once per month. No differentiation between local and distant parks was made when information on childhood visits to parks was requested in the questionnaire.

In terms of visitation frequencies in their original country, the results are somewhat reversed compared with the visitation frequencies during childhood. Nearly three-quarters of respondents were either light users (33.3%, n=164) or moderate users (41.9%, n=206) of local parks. Only 9.9% (n=48) of them reported being heavy users and 18.6% (n=74) of them reported being very frequent visitors of local parks. Though the result is reversed compared with the visitation frequency during childhood, it is consistent with the frequency of visitation to local parks during the last year. Almost three-quarters of respondents reported themselves as either light users (23.5%, n=133) or moderate users (45.9%, n=260) of local parks during the last 12 months. Only 12.0% (n=68) of them were heavy users and 18.6% (n=105) of them were very frequent visitors of local parks. Consistency was also found between the frequencies of visiting distant parks in their country of origin as well as in Canada during the last 12 months. The exact ratios of these two items are listed in the table below; they are very similar. Most differences were less than 3% and only two of them are around 6%. The results suggest that Chinese Canadians maintain similar frequencies of visiting local and distant parks after migration as they did in their original country prior to immigration.

Respondents were also asked to report what percentage of their leisure time was devoted to visiting local and distant parks. Respondents spent a mean of 21.6% of their leisure time (SD=19.9, n=492) visiting local parks and a mean of 7.9% (SD=7.7, n=479) of their leisure time visiting distant parks.

Table 4.15 *Parks visitation frequencies*

Frequency of visiting parks during childhood (n=593)

< 1 in 3 years	1 in 3 years	Once per year	Several times per year	At least once per month
60	20	82	288	143
(10.1)	(3.4)	(13.8)	(48.6)	(24.1)

Frequency of visiting local parks in original country (n=492)

Light users (≤3 times/year)	Moderate users (4-25 times/year)	Heavy users (> 25 times/year)	Most frequent visitors (virtually everyday/every week)
164	206	48	74
(33.3)	(41.9)	(9.9)	(18.6)

Frequency of visiting distant parks in original country (n=456)

≤1 time in 3 years	Once in 3 years	Once per year	≤3 times/year	4-25 times/year	> 25 times/year	Virtually everyday/every week
91	40	131	128	32	19	15
(20.0)	(8.8)	(28.7)	(28.1)	(7.0)	(4.2)	(2.4)

Frequency of visiting local parks last year (n=566)

Light users (≤3 times/year)	Moderate users (4-25 times/year)	Heavy users (> 25 times/year)	Most frequent visitors (virtually everyday/every week)
133	260	68	105
(23.5)	(45.9)	(12.0)	(18.6)

Frequency of visiting distant parks last year(n=524)

≤1 time in 3 years	Once in 3 years	Once per year	≤3 times/year	4-25 times/year	> 25 times/year	Virtually everyday/every week
66	55	177	158	46	13	9
(12.6)	(10.5)	(33.8)	(30.2)	(8.8)	(2.5)	(1.7)

Percentage of recreation time devoted to visiting local parks (M=21.6%, n=492, SD=19.9)

Percentage of recreation time devoted to visiting distant parks (M=7.9%, n=479, SD=7.7)

Note: Percentages appear in parentheses.

Descriptive statistics of leisure attitudes, environmental identity and parks attitudes

Descriptive statistics of leisure attitudes

Table 4.16 showed the percentage, means and standard deviations documented by the leisure attitudes scale. The scale was designed with thirteen items. The item "I feel guilty about enjoying in leisure" was removed during the data cleaning process. The reasons were stated in the previous paragraphs. It appears that the rest of twelve items show two different patterns of distribution. The first eight items had similar means of approximately 3.5 and most respondents reported their attitudes as either "agree" or "strongly agree;" while the last four items were different from the distribution of first eight items but shared similar patterns with each other. Those four items had means close to 2.5 which are much smaller than the first eight items. Additionally, they had the highest percentage of responses in either the "agree" or "disagree" categories, which indicate that a great portion of respondents have opposite attitudes toward those four items.

Table 4.16 *Percent, Means and Standard Deviations for Leisure Attitudes Scale*

Items	Descriptive statistics			Percentage of responses			
	N	Mean	SD	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Beneficial	603	3.6	.54	.7	.7	36.2	62.5
b. Health	607	3.7	.49	.5	.3	25.7	73.5
c. Happiness	605	3.7	.53	.5	1.2	29.8	68.6
d. Work productivity	587	3.5	.59	1.0	1.7	39.5	57.8
e. Pleasure	600	3.6	.52	.5	.3	33.5	65.7
f. Like	599	3.6	.55	.5	1.0	41.2	57.3
g. Fulfilling	595	3.4	.64	.8	6.2	47.6	45.4
h. Be myself	581	3.3	.75	2.9	8.8	43.7	43.6
j. Spend time effort	563	2.7	.75	2.0	38.7	42.8	16.5
k. Money	599	2.4	.79	7.8	52.6	28.7	10.9
l. Engage busy	589	2.7	.74	3.7	32.8	49.6	13.9
m. Priority	578	2.6	.80	5.5	40.1	39.3	15.1

Descriptive statistics of environmental identity

The respondents' replies regarding their environmental identity are depicted in Table 4.17. Most items have their highest frequencies of responses in either the "agree" or "strongly

61

agree" categories. The two items that most respondents reported "strongly agree" were: the ninth item "learning about the natural world should be an important part of every child's upbringing," which had 61.8% of respondents reporting strong agreement, and the first item "I really enjoy spending time in nature areas such as parks and green spaces" (53.7%). Those two items also had the highest means of 3.6 and 3.5 respectively.

Table 4.17 *Percent, Means and Standard Deviations for Environment Identity Scale*

Items	Descriptive statistics			Percentage of responses			
	N	Mean	SD	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Enjoy time in nature	614	3.5	.61	.5	4.6	41.2	53.7
b. Environment friendly	590	3.2	.62	.7	8.1	57.6	33.6
c. Part of nature	583	3.3	.65	.7	8.7	51.8	38.8
d. Devote time and money	592	3.2	.64	1.0	8.3	57.1	33.6
e. Feel better	606	3.4	.64	.8	5.9	46.5	46.7
f. Childhood	605	3.3	.74	1.0	14.9	40.7	43.5
g. Spiritual sustenance	576	3.2	.68	1.0	10.4	51.6	37.0
h. Moral code	587	3.3	.60	.7	4.8	55.5	39.0
i. Upbringing	602	3.6	.55	.7	1.2	36.4	61.8
j. Room with nature	584	3.2	.78	2.4	15.1	43.0	39.6
k. Life was missing	584	3.2	.68	1.7	9.1	53.4	35.8

Descriptive statistics of park attitudes

Table 4.18 represents the percentage, means and standard deviations of responses related to attitudes toward parks. There were originally 10 items in the park attitude scale. The item "parks can be an unsafe place to visit (e.g., due to wild animals)" was excluded based on a reliability test. For the remaining nine items, most of them had their highest frequencies of responses in either "agree" or "strongly agree" category. Both the item "visiting parks improves people's health" (54.1%) and the item "visiting parks enables me to enjoy nature" (53.7%) have the highest percentage of response as "strongly agree" and also reached the highest mean of 3.5. The lowest mean value (3.0) is the item "I prefer to visit wilderness-oriented parks, rather than highly developed parks (e.g., sports fields or amusement parks)." It also had the lowest percentage (30.0%) of respondents who reported strong agreement. Additionally, it had the highest responses in the "disagree" category (24.3%).

Table 4.18 *Percent, Means and Standard Deviations for Park Attitudes Scale*

Items	Descriptive statistics			Percentage of responses			
	N	Mean	SD	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Health	614	3.5	.55	.5	1.1	44.3	54.1
b. Enjoy Nature	611	3.5	.55	.3	1.8	44.2	53.7
c. Facilities Service	594	3.2	.70	1.2	14.1	52.5	32.2
d. Comfortable with wilderness park	590	3.3	.63	.5	8.3	53.4	37.8
e. Escape	600	3.2	.68	1.2	11.3	53.0	34.5
f. Exercise	606	3.2	.69	2.0	8.6	53.5	36.0
h. Family and friends	606	3.2	.60	.5	7.4	60.2	31.8
i. Prefer wilderness park	577	3.0	.80	2.3	24.3	43.5	30.0
j. Comfortable with neighborhood park	596	3.2	.66	1.3	8.7	53.9	36.1

Correlation analysis between main variables and the frequencies of visiting parks

Before performing a correlation analysis, it is better to conduct preliminary analyses to check for violation of the assumptions of linearity and homoscedasticity. Scatter plots were suggested to be used as a preliminary test (Pallant, 2005). Hence scatter plots were first created to ensure the assumptions of linearity and homoscedasticity. Pearson product-moment correlation coefficient analysis was used to examine the relationship between measures of acculturation level, leisure attitudes, environment identity, parks attitudes and frequencies of visiting parks. The measures of frequencies of visiting parks included seven different sub items: the frequencies of visiting parks during childhood, visiting local and distant parks in original country, visiting local and distant parks last year, and also the percentage of leisure time that was devoted to visiting local and distant parks in the last year. These seven questions asked respondents to report an exact amount or number. The result discloses that it is difficult for participants to remember or calculate the exactly amount of visitation to parks. Therefore the visitation patterns section has a high missing value rate.

Cohen's (1988) suggestion regarding the values of Pearson correlation coefficients (*r*) and the strength of the correlation was used as a guideline: the correlation is identified as a weak correlation when the value of *r* is between .10 and .29; the correlation is identified as medium to strong if the value of *r* is between .30 and .49; and the correlation is

classified as strong correlation when the value of r is more than .50. Table 4.19 presents the correlation between the main variables. Also, it presents the mean and standard deviation of main variables. The Environmental Identity Scale, Leisure Attitudes Scale, Parks Attitudes Scale and Acculturation Scale contain 11, 13, 10 and 16 sub items respectively. Each respondent's answers of these four scales' sub items were summed and divided by the amount of items to get the mean score of the response of the entire scale. For instance, each respondent's answers of 11 Environmental Identity items were summed together and divided by 11 to get the mean of his/her response to the entire Environmental Identity Scale. New variables named "mean of environmental identity" that formed by these means were created. The same steps were taken for the other three scales. The aggregate mean scores of these four main variables are presented in Table 4.19. There was a significant and positive correlation found between measures of leisure attitudes, environment identity and parks attitude. The Pearson correlation coefficient between measurements of environmental identity and parks attitudes was .65, which indicates there is a significant and positive correlation between environmental identity and parks attitudes. Parks attitudes and leisure attitudes was also correlated significantly and positively (r=.52). The value of the Pearson correlation coefficient between the measure of leisure attitudes and environmental identity was .43, which also indicates a relatively strong and positive relationship between these two variables. It is surprising that no significant relationships were found between these three variables, leisure attitudes, environment identity and parks attitudes, and the four indicators of acculturation and marginality (acculturation level, years in Canada, education level and household income level). The highest two Pearson correlation coefficients were found between the measure of leisure attitudes and the acculturation level (r=.12) and the measure of environment identity and education level (r=.11). However, the correlation values were still relatively low and only suggest a very weak relationship between these two measures. This indicates a small positive potential relationship between the leisure attitudes and acculturation level, and environment identity and education level.

The results of correlation analysis between the main variables and the frequencies of visiting parks are also presented in Table 4-19. Most Pearson correlation coefficients (r) between the measure of leisure attitudes and frequencies of park visits were less than .10, which indicate that there is almost no relationship found between them. There was a weak positive correlation between leisure attitudes and visiting local (r=.10) and distant parks last year (r=.14). Compared to leisure attitudes, the values of Pearson correlation coefficients between parks attitudes and parks visitation were greater. However, the values of r were still relatively low and can only suggest a very weak relationship between those two measures. The highest Pearson correlation coefficients were found between the measure of environmental identity and the frequencies of visiting parks. Most correlation values were more than .10 but less than .29, which indicate a small positive potential relationship between the environmental identity and parks visitation. It is surprising that there were no significant relationships found between acculturation levels, the years in Canada, income, education level and frequencies of visiting parks.

In addition, the results of correlation analysis between the park visitation variables are presented in Table 4-19. Most visitation variables are positively correlated to each other.

The highest Pearson correlation coefficients were found between percentage of time visiting local and distant parks (r=.5). The correlation between the frequencies of visiting distant parks in original country and in the last year was the second highest (r= .44). There was a medium-strong and positive correlation found between several variables: frequencies of visiting parks in childhood and frequencies of visiting local parks in original country (r=.33), frequencies of visiting local parks in original country and in last year (r=.40), frequencies of visiting local parks in original country and frequencies of visiting distant parks in the last year (r=.36) and frequencies of visiting local and distant parks in the last year (r=.40).

Table 4.19 *Pearson Product-Moment Correlations between main variables*

	Education Level	Income	Frequencies Childhood	Frequencies local original	Frequencies distant parks original	Frequencies local parks last year	Frequencies distant parks last year	% local parks	% distant park
Leisure Attitudes									
Environment Identity									
Parks Attitudes									
Acculturation Level									
Years In Canada									
Education Level	1								
Income	.260**	1							
Frequencies Childhood	-.048	-.116*	1						
Frequencies local original	.048	-.078	.329**	1					
Frequencies distant original	.045	-.094	.074	.112*	1				
Frequencies local parks last year	.082	.047	.216**	.395**	.230**	1			
Frequencies distant parks last year	.092*	.070	.249**	.360**	.440**	.398**	1		
Percentage local parks	.067	.126*	.057	.179**	.031	.337**	.189**	1	
Percentage distant parks	.004	.036	.010	.039	.155**	.105*	.286**	.497**	1
M	3.56	3.45	3.73	2.07	3.19	2.26	3.26	21.61	7.87
SD	1.060	1.843	1.164	1.015	1.522	1.017	1.301	18.863	7.662

66

	Leisure Attitudes	Environment Identity	Parks Attitudes	Acculturation Level	Years In Canada
Leisure Attitudes	1				
Environment Identity	.425**	1			
Parks Attitudes	.519**	.649**	1		
Acculturation Level	.115***	-.084*	.003	1	
Years In Canada	.051	-.034	.027	.283**	1
Education Level	.025	.110**	.070	.038	-.067
Income	-.020	-.097	-.028	.092	.209**
Frequencies Childhood	.026	.168**	.074	.111**	-.096*
Frequencies local original	.090*	.145**	.112*	.009	-.129**
Frequencies distant original	.031	.128**	.077	-.057	-.183**
Frequencies local parks last year	.103*	.210**	.200**	.001	.005
Frequencies distant parks last year	137**	.202**	.150**	-.067	-.055
Percentage local parks	.043	.223**	.227**	-.070	-.004
Percentage distant parks	.021	.106*	.136**	-.034	-.090
M	3.25	3.32	3.27	2.07	11.83
SD	.390	.423	.412	.398	9.682

Multiple Regression Analysis

Several assumptions were checked before performing the multiple regression analysis. As Table 4.19 presented, all the correlations between the main variables were less than .70; therefore, the model has not violated the multicollinearity assumption. Outliers, normality, linearity, homoscedasticity, and independence of residuals were checked through inspecting the residuals scatter plot and the normal probability plot of the regression standardized residuals. In the normal probability plot of the regression standardized residuals, data points lie in a roughly straight diagonal line from bottom left to top right. Most of the data points in the scatter plot of the standardized residuals fall within a rectangular area in the center of the chart. These results suggest that no major deviations from assumptions occurred.

Table 4.20 presented the results of the multiple regression analysis. When the dependent variable was set as visits to local parks in the last 12 months the R Square is 5.3%. The R Square is approximately 5.8% when the dependent variable was set as visits to distant parks in the last 12 months. The values of the R Square are low and almost equal, which means that the Chinese Canadians' parks visitation model only explains about 5 percent of the visits to local and distant parks in the last 12 months.

Table 4.20 *Chinese Canadians' Parks Visitation Model Summary: Explaining Visits to Local and Distant Parks*

Model	Model 1a			Model 1b		
Dependent variable	Visits to Local Parks			Visits to Distant Parks		
Variable	ß	95% CI		ß	95% CI	
		Lower Bound	Upper Bound		Lower Bound	Upper Bound
Leisure attitudes	-.016	-.360	.279	.080	-.152	.690
Environmental Identity	.141*	.006	.672	.150*	.021	.899
Park attitudes	.103	-.101	.611	.016	-.419	.518
Acculturation	-.006	-.294	.262	.029	-.461	.270
Years in Canada	.002	-.011	.012	.062	-.023	.007
Education level	.046	-.060	.148	.046	-.081	.193
Income level	.052	-.032	.089	.090	-.016	.144
R	.230			.241		
R²	.053			.058		
F	2.782			2.896		

Note: N=384. CI = confidence interval. *p<.05, **p<.01

68

Table 4.20 also presents the contribution of each independent variable in the prediction of dependent variables. Of these seven variables, only environmental identity makes a statistically significant contribution to the prediction of visits in the last 12 months to local parks (ß=0.14) and distant parks (ß=0.15). Other variables failed to contribute to the prediction.

One possible explanation is that there may be some overlap between certain variables and as a result these variables were unable to make a unique contribution to explaining the dependent variable. Education and household income level were found to be positively correlated with each other (r= .26). The correlation analysis also showed that acculturation level and years in Canada were positively correlated with each other (r=.28). Environmental identity and park attitudes were also highly correlated. These six variables were removed from the model and then added separately as regression analyses were performed again to test for any overlap or masking of effects. Unfortunately the explained variance of park visitation remained low in each of these subsequent models.

Parks visitation patterns: activities participation in parks

Table 4.21 depicts responses to a question regarding respondents' participation in various activities in parks. The scale examined 25 activities in total, which included a broad range of activities that are popular in parks. The scale asked respondents to report their frequencies of participating in those activities both in their childhood (under age of 16) and presently.

The top five present day activities that respondents reported the highest regular participation in included walking (47.8%), rest and relaxation (45.7%), taking pictures (43.9%), socializing and talking (35.9%) and sightseeing (34.3%). They also had the highest mean among the 25 items, around 3.3 on a scale of 1 (Never) to 4 (Regularly). Three of those five activities were also the activities that had the highest regular participation during participants' childhood; these activities were walking (29.4%), rest and relaxation (29.3%), and socializing and talking (25.3%).

The activities that had the lowest regular participation were motorized boating (1.5%), gathering natural edible products (2.5%), playing golf (2.9%), skiing and snowboarding (2.8%) and mountain climbing (2.9%). Those five activities also had the lowest mean value around 1.5. Among those five activities, playing golf (1.4%), skiing and snowboarding (2.8%) and mountain climbing (4.2%) were also reported as activities that had lowest regular participants' childhood.

Sightseeing by car (increased 20.5%), walking (increased 18.4%), rest and relaxation (increased 16.4%), taking pictures (increased 14.2%), sightseeing (increased 11.8%), socializing and talking with friends (increased 10.6%) and Barbeque and picnic (increased 8.7%) are the activities that had the greatest increase of regular participation from childhood to the present. Conversely, the current regular participation in bicycling and playing team sports decreased by 19.3% and 12.5% respectively when compared with their childhood actions.

Table 4.21 *Percent, Means and Standard Deviations for Activities Engaged in While Visiting Parks*

Items	Descriptive statistics			Percentage of responses			
	N	Mean	SD	Never	Rarely	Sometimes	Regularly
a. Sightseeing child	579	2.8	.83	5.5	26.6	45.4	22.5
Sightseeing now	562	3.1	.77	2.5	16.9	46.3	34.3
b. Car Sightseeing	567	2.2	.94	42.0	24.9	23.9	9.2
Car Sightseeing	558	2.9	.90	7.5	23.1	39.6	29.7
c. Pictures child	566	2.9	.94	8.3	26.3	35.7	29.7
Pictures now	558	3.2	.83	2.9	18.5	34.8	43.9
d. Wildlife child	568	2.3	.91	18.7	43.1	26.2	12.0
Wildlife now	559	2.5	.82	9.3	42.2	36.5	12.0
e. Picnic child	568	2.4	.96	21.0	33.3	32.9	12.9
Picnic now	559	2.9	.82	5.9	24.2	48.3	21.6
f. Rest child	569	2.9	.91	8.4	21.4	40.8	29.3
Rest now	562	3.3	.72	.7	13.7	39.9	45.7
g. Socializing child	566	2.8	.92	8.5	30.6	35.7	25.3
Socializing now	557	3.1	.78	2.5	16.7	44.9	35.9
h. Watch sports c	568	2.5	.94	16.7	33.5	34.9	15.0
Watch sports n	556	2.4	.88	13.8	40.6	33.3	12.2
i. Walking child	572	2.9	.88	6.1	24.7	39.9	29.4
Walking now	558	3.3	.78	2.7	11.3	38.2	47.8
j. Walking dog c	566	1.5	.88	74.9	10.8	8.1	6.2
Walking dog n	555	1.5	.92	71.4	13.9	7.2	7.6
k. Jogging child	565	2.3	.98	23.9	32.0	30.8	13.3
Jogging now	551	2.5	.94	16.3	35.0	33.2	15.4
l. Hiking child	570	1.9	.90	42.1	31.2	21.8	4.9
Hiking now	560	2.1	.96	34.5	33.0	24.1	8.4
m. Climbing child	570	1.6	.87	59.8	22.5	13.5	4.2
Climbing now	558	1.7	.83	53.9	28.3	14.9	2.9
n. Bicycling child	569	2.7	1.07	17.8	22.0	30.6	29.7

Bicycling now	555	2.2	.98	29.9	31.4	28.1	10.6
o. Exercising child	570	2.6	1.00	17.2	26.7	35.8	20.4
Exercising now	556	2.7	.92	10.3	29.5	38.5	21.8
p. Skiing/snowboarding child	569	1.4	.77	72.1	16.2	9.0	2.8
Skiing/snowboarding now	548	1.8	.89	47.6	31.8	15.3	5.3
q. Camping child	562	1.7	.87	55.9	26.5	13.2	4.4
Camping now	552	1.9	.92	41.8	31.2	21.4	5.6
r. Team sports child	565	2.5	1.08	26.0	23.0	30.8	20.2
Team sports now	547	2.1	.93	32.5	34.2	25.6	7.7
s. Games child	566	2.0	1.01	42.0	24.9	23.9	9.2
Games now	553	1.9	.93	41.8	31.1	20.8	6.3
t. Playing golf child	565	1.3	.66	79.5	12.2	6.9	1.4
Playing golf now	554	1.5	.80	62.6	23.8	10.6	2.9
u. Swimming child	569	2.3	1.09	26.9	28.3	30.2	14.4
Swimming now	556	2.3	.96	25.9	33.5	30.2	10.4
v. Fishing child	568	1.6	.84	56.5	25.7	14.8	3.0
Fishing now	554	1.7	.90	52.3	28.2	14.1	5.4
w. Edible products child	569	1.8	.97	50.1	28.3	17.0	4.4
Edible products now	557	1.8	.85	49.4	28.7	19.4	2.5
x. Canoeing child	567	1.7	.85	50.3	28.7	18.5	2.5
Canoeing now	553	1.7	.82	48.1	32.5	17.2	2.2
y. Motorized boating child	563	1.7	.87	51.2	27.5	17.9	3.4
Motorized boating now	551	1.7	1.17	49.0	33.0	16.3	1.5
z. Other child	62	2.1	1.12	40.3	16.1	29.0	14.5
Other now	66	2.2	1.13	37.9	21.2	24.2	16.7

Chapter 5:   Discussion and Conclusion

This chapter discusses results presented in the previous chapter. The descriptive statistics of main variables is reviewed briefly. This is followed by a discussion of the key findings related to the correlation and multiple regression analyses. Secondary data observations that are related to respondents' parks visitation patterns are described next. Also, strengths and weaknesses associated with the methodology used in this research are described in this chapter. Recommendations and suggestions for future studies are presented at the end of this chapter.

Descriptive statistics of main variables

The three main independent variables: leisure attitude, environmental identity and parks attitudes have the same mean value of 3.3 of 5. The results show that Chinese Canadians hold similar and positive attitudes toward leisure, environment and parks. As for the marginality variables, respondents of the sample were more likely to have a higher education level than the general Canadian population. Additionally, the mean of the acculturation level was 2.1 of 5, which demonstrates that respondents were not highly acculturated.

Correlations between dependent and independent variables and the prediction of visits to local and distant parks

This section discusses key findings related to the correlations analysis and multiple regression analysis. Each independent variable's relationship with several park visitation indicators is discussed separately. The main variables of park visitation used in this study were frequencies of visitation to local parks, more distant parks and protected areas respectively during three different periods: distant past (during childhood), recent past (when respondents still resided in their original countries) and currently (in the last year). Additionally, the portion of respondents' annual recreation and leisure time that was devoted to visiting local and distant parks was also collected as supplementary parks visitation variables.

Socioeconomic status and parks visitation

The investigation of socioeconomic status of study participants was designed to explore marginality theory. Marginality theory states that less participation of minority groups is due to their limited socioeconomic status. Two of the socioeconomic indicators: education level and household income were utilized as indicators of marginality. A weak correlation was found between the household income level and the percentage of leisure time devoted to visiting local parks (r=.13). Additionally, the correlation between the education level and frequencies of visiting distant parks last year was found to be statistically significant but somewhat weak (r=.09). It is surprising that there were no other significant relationships found between these two variables and other indicators of park visitation. Both income and education failed to predict visitation to local or distant parks in the multiple regression analysis. This result is inconsistent with the effect of marginality that was documented by many previous studies (O'Leary & Benjamin, 1982; Stamps & Stamps, 1985; Gómez, 2006). However, most of these previous studies focused on the Black American population or Hispanic residents. In contrast, Chinese North

Americans have a comparable economic status as the dominant groups in their respective countries. According to Tsai (2000), Chinese immigrants have even higher socioeconomic status than the general population in Australia. The results of this study suggested that marginality theory may be more suitable to explain the difference between Black and Hispanic minority groups and mainstream society than other minority groups (i.e., Asian groups).

Within the data set the high numbers of missing values for the household income level variable may be a concern. However, it cannot explain a lack of correlation between education level and park visitation. Another possible reason is that the majority of the respondents may treat visiting parks as a family activity. According to Statistics Canada (2006), Chinese minorities were found to be highly family oriented; with 46% of them were living with a spouse in a census family[7]. The proportion is almost double that (25%) of the general population in Canada (Statistics Canada, 2006b). The majority (62.8%) of the respondents in this study were between 25 and 54 years. This group of people are likely to have their own family. They might visit parks for reasons related to family, especially for their children. This is supported by the results of the open questions. Respondents were asked to list five things that they like to do in parks, playing with children was one of the most frequently reported answers by respondents. If most respondents visit parks mainly for their family but not for themselves, the low predication of marginality indicators is reasonable as income and education level may not be barriers to visitation.

Ethnicity and parks visitation

Also, the results failed to support the ethnicity hypothesis. No correlations were found between acculturation levels, the length of stay in Canada and frequencies of visiting parks. Both these two indicators failed to predict visitation to local or distant parks in the multiple regression analysis. This corresponds with Deng's (2004) research that found there were no discernable differences between high and low acculturated Chinese participants' attitudes toward parks related facilities. Deng (2004) proposed that Chinese participants tend to be homogenous and that ethnicity only has a low effect on their attitudes toward parks related facilities.

Deng (2004) indicated that his results may be attributed to a limitation associated with his samples. The samples, conducted through stratified systematic sampling method, tended to be homogeneous in terms of the residence length. The majority of Chinese participants arrived in Canada within 10 years; hence, their acculturation levels tended to be low and the function of acculturation was not even evident. The author suggested that future studies should be conducted in other cities (e.g., Vancouver, Toronto) to involve more diverse Chinese participants. Based on Deng's suggestion and other previous studies, the current study conducted samples through three different cities to avoid the possible limitation regarding to homogeneous issue. The length of stay in Canada of the current study's respondents was more diverse than Deng's sample. Most respondents (45.4%) had spent 6 to 15 years in Canada. The second largest group of respondents reported that

---

[7] A census family consists of either married or common-law couples living with or without children, and lone –parent families (Statistics Canada, 2006b).

they had lived in Canada 1 to 5 years. Seventeen percent of them had lived 16 to 25 years. And a few of respondents (9.5%) had lived more than 25 years in Canada. Therefore the homogeneous issue regarding to the residence length that was suggested by Deng cannot explain the low correlation. Ethnicity theory indicates that ethnicity can account for ethnic groups' under-participation in leisure. Most studies that supported this perspective were conducted with Black or Hispanic groups. As for Chinese minorities, it may be better to consider their different leisure participation patterns than the amount of participation. Though the statistical results did not show any relationship between ethnicity indicators and the frequencies of visiting parks, the secondary data showed different leisure participation patterns of Chinese Canadians. The latter section will further discuss these differences.

Leisure attitudes and parks visitation

There were statistically significant but somewhat weak correlations found between leisure attitudes and main visiting parks variables. The correlation coefficients between leisure attitudes and visits to local parks in respondent's original country prior to immigration, last year and visits to distant parks last year were .09, .10 and .14 respectively. Also, leisure attitudes failed to predict visitation to local or distant parks in the multiple regression analysis. These results correspond to Neulinger and Raps's (1972) research that also found weak correlations (r=.25) between leisure attitudes and leisure participation. They proposed that the methodological problems may account for the weak correlation. However, they still believed that leisure attitude is a useful predictor of leisure participation. As for the current study, Chinese culture may somewhat explain the low correlations. According to Deng (2004), leisure and recreation are traditionally less valued in Chinese culture. He found Chinese held similar behavioural components of leisure attitudes as Canadian participants while ranking affective and cognitive components of leisure attitudes as less important than Canadian participants. Using this to account for similarity in behavioural components of leisure attitudes, Deng (2004) stated that even though people place less value on a leisure activity, they still like to engage in it (e.g., watching TV). In other words, respondents may report less positive attitudes toward leisure but still participate in leisure frequently. This reason may also explain the low correlation between leisure attitudes and park visitation variables in the current study. Respondents may place less value on leisure but still participate in leisure frequently. Therefore they may have stated low attitudes while still reporting frequent visitation to parks. Hence it is reasonable that the predication of frequencies to visiting parks by leisure attitudes is weak.

Environmental identity and parks visitation

The correlation coefficients between environmental identity and frequencies of parks visitation were highest among the independent variables in the Chinese Canadians' parks visitation model. Most correlation coefficients were between .10 and .25, which indicates a low correlation between the environmental identity and parks visitation.Winter and Chavez's (2008) study reported a significant and positive correlation between environmental identity and environmental protection and low-impact recreation. The study suggested that the environmental identity is a useful indicator for nature and environment related behaviours. A similar situation was found with Clayton's (2003)

study, which found a significant positive correlation between environmental identity and environmental behaviours. Neither of these studies looked specifically at the relationship between environmental identity and parks visitation, however, in this current study it was hypothesized that individuals who hold positive attitudes toward the environment and whose sense of self is shaped and reinforced by interactions with the environment, would also be more likely to visit parks. The study results support this. The positive prediction of visits to local ($ß = .09$) and distant ($ß = .14$) parks in the last 12 months observed during the multiple regression analysis supported this hypothesis.

Slightly stronger correlations were observed between the three main variables: leisure attitude, environmental identity and parks attitudes, and visitation to distant parks compared to that of local parks. The differences are very slightly (less than 0.05). In contrast, the other variables: acculturation level, years in Canada, education level and household income, appear to be correlated with local parks visitation slightly more strongly than distant parks visitation. The differences are also very slightly (less than 0.05).

Survey instrument and methodological considerations

Limitations associated with the survey instrument and methodology are discussed in this section. The main weaknesses of the survey design: the length of the survey instrument and several questions' format are described first. This is followed by a comparison of the present sampling method with the initial sampling method. The weaknesses of the current sampling method are also presented.

Length of the survey instrument

In the preliminary test, most respondents reported that the questionnaire was too long. The approximate time required for accomplishing the questionnaire was 15 to 25 minutes according to the 30 respondents' answers. A similar situation was found in the survey conducting process. Most respondents spent approximately 20 to 25 minutes completing the questionnaire. A few serious respondents even spent approximately half an hour on the questionnaire. Many respondents reported that the questionnaire was too long. Some of them mentioned that they were impatient to reply the questions when they were answering the latter part of the questionnaire. According to Burchell (1992), an overlong survey would negatively impact both the response rates and the quality of the responses. Therefore the length of the survey instrument may have had negative effects on the quality of the responses and also impact the accuracy of the results. Fortunately key variables were measured by questions that occurred at the beginning and middle of the survey instrument; therefore respondent fatigue likely did not have a negative effect on responses to these questions.

The survey instrument was first designed for mailing. Participants were supposed to answer and complete the questionnaire when they had free time and at home. Due to unexpected low response rates and limited time and resources, the researcher changed the sampling method to on site convenience sampling. Respondents completed the survey at shopping malls, markets, libraries and etc. Compared to completion at home, respondents at a mall or market are more likely to feel impatient when they are answering questions.

Though the researcher changed the printing format to make the survey instruments seem shorter, the researcher did not cut down the contents of the survey instrument. Therefore the questionnaire still contained many questions. Future studies should carefully consider the length of the questionnaire.

Question design

Issues related to scale content

This section discusses the limitations related to the questionnaire design. One issue is that the prominence of "I" and "My" in the leisure attitudes scale may have given this scale an individualist tone. As Chinese are recognized to emphasize collectivism and are socially oriented (Hsu, 1981; Yang, 1981) the leisure attitude scale, as it was utilized in this study, may not be appropriate for Chinese Canadians. This might have contributed to its lack of predictive ability. For future research on Chinese populations, the sub items of the leisure attitudes scale may need to be reworded and emphasize the family perspective rather than only focus on individuals. For instance, "Leisure pursuits give me pleasure" may be rephrased as "Leisure pursuits give my family pleasure".

Questions that requested specific estimates

The missing values of the visitation patterns section of the questionnaire ranked the second highest among questions with missing values. Question 25 asked respondents to report the percentage of their leisure time devoted to visiting local and distant parks respectively. As described previously in the results chapter some answers were recoded as missing values since some respondents were presumed to misunderstand the question. It was felt this would make the data results more trustworthy. The replacement increased the percentage of missing values of Question 25(a) from 7.7% to 21.2% and Question 25(b) from 9.8% to 23.2%. Question 25's rate of missing values is similar to Questions 21 and 22. Questions 21 and 22, which asked respondents' frequencies of visiting local and distant parks in their country of origin (prior to immigration to Canada), had 15.4% and 21.8% missing values respectively. Questions 23 and 24 which asked about respondents' frequencies of visiting local and distant parks in the last year had 9.3% and 16.0% missing values respectively. The reason might be that it is difficult for participants to remember or calculate the exact amount of visitation to parks. Therefore other forms of questions are encouraged to replace this type of question and careful interpretation of these questions' results is warranted.

Negatively worded items

Another limitation of the study is related to negatively worded items. In the leisure attitudes scale and the parks attitudes scale, both of them had a negatively worded item. The item in the leisure attitudes scale was "I feel guilty about enjoying in leisure" and the item in the parks attitudes scales was "Parks can be an unsafe place to visit (e.g., due to wild animals)". These items were removed from their respective scales because they: 1) did not originally belong to the Ragheb & Beard's (1982) leisure attitude scale and Gómez's (2006) parks attitudes scale respectively; 2) appeared to have low correlation values with other items in the scale (.09 and .07 respectively, as depicted in Table 4.1 and Table 4.2; and 3) reduced the Cronbach's alpha of their respective scales. Upon closer inspection it was also determined that the leisure attitudes item was missing a word in the

English version of the questionnaire, thereby compromising comprehensibility. The Cronbach's alpha of leisure attitudes scale increased from .80 to .82 and the Cronbach's alpha of parks attitudes scale increased from .79 to .82 when these items were removed. This suggests that having only one negatively worded item in the scale may have confused respondents, thus future researchers should carefully consider whether to utilize the negatively worded items or maintain the consistency of a scale.

Comparison with initial sampling method

An advantage of the initial sampling method (which employed Deng's (2004) randomized selection of Chinese names from a telephone book and telephone surveying) was that it was supposed to obtain a more diverse and generalizable sample of Chinese Canadians. Despite a change to convenience sampling in public areas popular with Chinese Canadians, which likely produced a less random and less generalizable sample, the current study's sample shared very similar ethnic characteristics with Deng's (2004) sample (see Table 5.1). In both two studies more than half of respondents reported their cultural identity as Chinese with the ratio of the current study's 52.2% and Deng's 55.4% respectively. They also shared a similar proportion (around 40%) of respondents who reported their cultural identity as Chinese Canadian. In addition, only a few (less than 5%) of these two study's respondents identify themselves as Canadian. In terms of residency status, the majority of the two study's respondents were first generation immigrants with 84.9% of the current study and 92.0% of Deng's study respectively. Compared to Deng's, the current study's sample is closer to the ratios reported by Statistics Canada (2006b), which found that 25% of Chinese Canadians are native born and 75% of them are first generation. In addition, both two study's respondents reported a relatively long length of stay in Canada: 11.8 years for the current study and 9.5 years for Deng's study.

Additionally, the two studies also shared several demographic characteristics (see Table 5.2). In terms of age, the majority of the respondents for both studies were from 18 years to 49 years with 79.6% of the current study and 89.2% of the Deng's study. The difference is that the current study (33.4%) had more respondents between 18 and 29 years compared to the Deng's study (13.7%). While Deng's study (75.5%) surveyed more people between 30 and 49 years compared to the current study (46.2%). As for education, the majority (around 80%) of both study's respondents had either a university bachelor degree or graduate level degree. Compared to the Deng's study, the current study surveyed more respondents with a university bachelor degree and fewer respondents with graduate level degree. The proportion of the current study is closer to the total Chinese Canadian's education characteristics reported by Statistics Canada (2006b). In terms of household income, the two studies utilized different amount levels in the scales, therefore the researcher can only make some roughly comparisons. However, it is clear that the lowest three categories were most frequently reported by both two study's respondents. The largest income level group of Deng's study was between $50,000 and $74,999 (27.4%) while the largest income level group of the current study is between $20000 and $39999 (23.2%). The comparison demonstrates that the present sampling method obtained a diverse and generalizable sample that is similar to Deng's and Statistics Canada's figures on Chinese Canadians. This result challenges the common consensus from literature that the convenience sampling method is likely to gain a less

random and less generalizable sample. Further studies are encouraged to employ a variety of sampling approaches to achieve measurement of difficult to reach ethic populations.

Table 5.1 *Comparison of Ethnic Characteristics of Two Studies*

		Lin's	Deng's
Cultural identity			
	Canadian	18 (3.0)	8 (4.6)
	Chinese Canadian	269 (44.5)	70 (40.0)
	Chinese	315 (52.2)	97 (55.4)
	Other	2 (.3)	
	N	604	175
Residency status			
	First generation	449 (84.9)	161 (92.0)
	Second generation and over	89 (15.1)	14 (8.0)
	N	588	
Lengthy of Residency	Mean	M=11.8	M=9.5

Note: Percentages appear in parentheses.

Table 5.2 *Comparison of Demographic Characteristics of Current Study and Deng's (2004) Study of Chinese Canadians*

		Lin's	Deng's
Gender			
	Male	297(48.1)	102 (57.3)
	Female	320 (51.9)	76 (42.7)
	N	617	178
Age			
	18-29	200 (33.4)	24(13.7)
	30-39	154 (25.8)	75(42.9)
	40-49	122 (20.4)	57(32.6)
	50-59	44 (7.4)	13(7.4)
	60-69	29 (4.8)	3(1.7)
	70 and over	28 (4.7)	3(1.7)
	N	577	175
Education			
	Elementary school	11 (1.8)	7 (4.0)
	High school	119 (19.1)	25 (14.1)
	University bachelor and College diploma	362 (58.5)	63 (35.6)

University graduate	112 (17.9)	82 (46.3)	
N	604	177	

Income

Less than $20,000	54 (14.1)	36 (22.0)	Less than $24.999
$20,000 - $39,999	89 (23.2)	45 (27.4)	$25,000 - $49,999
$40,000 - $59,999	75 (19.5)	52 (31.7)	$50,000 - $74,999
$60,000 - $79,999	61 (15.9)	19 (11.6)	$75,999 - $99,999
$80,000 - $99,999	49 (12.8)	12 (7.3)	More than $100,000
More than $100,000	56 (14.5)		
N	384	164	
Missing value	240 (38.5)	178 (7.9)	

Note: Percentages appear in parentheses.

Weaknesses of the present sampling method

After conducting convenience sampling at three cities, the researcher found some weaknesses of the present sampling method. Compared to the present sampling method, the initial sampling method would have been more effective at targeting a particular group of people among a general population. The initial sampling method was telephone sampling which featured a stratified systematic sampling method. During the telephone sampling process, potential participants were randomly selected by their Chinese surnames from a city's telephone directory. Then phone calls were made to recruit potential participants and self-administered questionnaires were sent to those who agreed to participate. However, because the response rate was much lower than expected the sampling method was changed to convenience sampling. During the convenience sampling process, the researcher found that sometimes it is difficult to meet Chinese Canadians (e.g., at some shopping malls, local parks). Chinese Canadians make up a small proportion of the Canadian population therefore the rate of meeting them is lower. Sometimes the researcher needed to wait for Chinese Canadians and even change the sampling location since the researcher could not find any Chinese Canadians at the previous location. The initial sampling method would have avoided this problem since it selects Chinese Canadians from general population through their surnames directly.

Another limitation is that the face to face sampling process possibly constrains respondents to answer the questionnaire freely. For instance, only 7.9% of Deng's respondents failed to report their household income compared to a much greater missing value (38.5%) of the current sample. The possible reason is that respondents may have more concern about their privacy during an in-situ convenient sampling process.

On the other hand, the unexpected low response rate of the telephone sampling was puzzling. Compared to Deng's study (2004) of Chinese Canadians, the current study had a much higher no answer rate (44.2%) than Deng's study (2004) (16.2%), which resulted in a much lower response rate (11.0%) compared to Deng's (2004) (37.2%). The high no answer rate is perplexing since the researcher had tried each telephone number four times throughout the daytime and evenings, as well as during weekdays and weekends.

Therefore future researchers should find out the reason for the high no answer rate and resolve the problem if they intend to apply telephone sampling method to target Chinese Canadians in the future.

Discussion of the secondary data: visitation patterns and recommendations for parks practitioners

This section discusses several features of Chinese Canadians' visitation patterns from the secondary data's results. First, almost three quarters of the respondents visited parks often as a child and more than half respondents were either heavy or moderate users of local and distant parks both in their country of origin and last year. Also, visiting parks during childhood is positively correlated with local and distant parks both in the respondent's country of origin and last year. Moreover, there was a weak positive correlation found between the visiting parks in the respondent's original country and last year. The results support that Chinese Canadians maintain similar frequencies of visiting local and distant parks after immigration as they did in their childhood and prior to immigration. This finding suggests that past behaviour may be a predictor of Chinese Canadians' park visitation or other leisure participation patterns.

Additionally, passive activities characterized respondents' participation in park-based activities. The top five activities that respondents reported as regularly participating in were walking, rest and relaxing, taking pictures, socializing and talking, and sightseeing. Three of these five activities were also the activities that had the highest regular participation during participants' childhood; these were walking, rest and relaxing, and socializing and talking. The activities that had the lowest regular participation were motorized boating, gathering natural edible products, playing golf, skiing and snowboarding, and mountain climbing. Among those five activities, playing golf, skiing and snowboarding, and mountain climbing were also reported as activities that had lowest regular participation during respondents' childhood. This is consistent with previous studies' finding. Several studies proposed the popularity of indoor and passive activities as two features of Chinese people either in China (Tsai, 2007; Wang, 1999; Yang, 2002) or in North America (Hall & Rhyne, 1989; Yu & Berryman, 1996; Zhang, 1996). Consequently, more respondents provided recommendations related to passive activities, such as barbecue sites and rest areas, rather than services related to active activities. This observation enables parks planners and managers to plan better for Chinese Canadians' visitation needs.

As for constraints to visiting local parks, lack of time was most often reported by respondents. Most respondents mentioned other priorities, such as work, study and housework, which occupy their time. Lack of time was also the main constraint to visiting distant parks. Additionally, distance and cost are two other frequently reported constraints to visiting distant parks. In terms of recommendations for parks managers, better and more accessible washrooms and parking lots, more entertainment facilities and more facilities for children are the most often reported four aspects that visitors want to change. Some respondents also indicated they would like to have some improvement relating to Chinese services, information center, clearer map, and cleaner environment.

Finally, some participants' answers showed that children are one of the main concerns when they are considering visiting parks. They reported that they do not like to go to distant parks because their children are young. Also, playing with children is one of their most favourite activities. Moreover, those respondents reported that one of the three things that they want to change is to have more facilities for children in parks. This finding may also be useful for parks practitioners to improve their services to cater this group of people.

Conclusion of findings and recommendations for future research

As discussed above, the results failed to support most hypotheses except environmental identity's prediction of park visitation. The correlation coefficients between environmental identity and frequencies of parks visitation were highest among the independent variables in the Chinese Canadians' parks visitation model. Most correlation coefficients were between .10 and .25, which indicates a low correlation between the environmental identity and parks visitation. The positive prediction of visits to local (ß = .09) and distant (ß = .14) parks in the last 12 months observed during the multiple regression analysis also supported this hypothesis. This is a positive contribution to the parks literature as the relationship between these two variables (as they are represented in this study's measurement scales) remains relatively unexplored. Further research is encouraged to examine this relationship. The examination of the parks attitudes hypothesis was also exploratory, as little previous research has directly investigated park attitudes and visitation. Though the result failed to support this hypothesis, it is still a useful variable that is worth investigating in the future. Researchers may want to select other alternative scales instead of parks attitudes scales used in this study as a more robust and multi-dimensional measure of park attitudes may be needed.

For the three hypotheses related to marginality, ethnicity and leisure attitudes, the low correlations suggest researchers should reconsider the applicability of these three hypotheses to Chinese populations. The marginality and ethnicity theories are well developed and tested by ethnicity-related leisure studies; however, most of these studies focused on Black or Hispanic populations. From the findings of the present study, the ethnicity factor may still effect people's leisure participation; however, it did not impact respondents' park visitation rates but their visitation patterns (i.e., respondents were more likely to participate in passive activities). Future studies are encouraged to investigate the relationship between ethnicity and leisure participation patterns rather than participation rates among Chinese population. As for leisure attitudes, the mismatch between respondents' attitudes and behaviour towards leisure may explain leisure attitude's failure to predict park visitation. As leisure and recreation are traditionally less valued in Chinese culture, respondents possibly placed less value on leisure attitudes (as indicated by the low results produced by the leisure scale) while still visiting parks fairly frequently. Future researchers should consider this potential mismatch between leisure attitudes and behaviours such as park visitation.

In addition, the study conducted all the measures at one time. All the independent variables were participants' "present" attitudes and perspectives that they hold when they

were answering the questionnaires. However, the dependent variables were participants' "previous" visitation to local and distant parks. The usage of current attitudes and perspectives to predict past behaviours may explain the low prediction of the Chinese Canadians' Parks Visitation Model. For future research, longitudinal study may be more applicable for research hypothesis that involves exploring predication power between variables. For cross-sectional studies ANOVAs analysis may be more applicable rather than regression analysis.

Finally, the results suggest future studies can consider other factors that may predict Chinese population's parks visitation. For instance, the past visitation rates were found to be positively related to participants' current parks visitation rates in this study. This finding suggests that past behaviour may be a predictor of Chinese Canadians' park visitation or other leisure participation patterns. Compared to other ethnic groups, Chinese populations have only recently been studied by leisure researchers. Some theories or hypotheses that have or have not been applicable for other ethnic populations should also be explored for Chinese groups. Thus explorations of other possible factors or theory for Chinese population are encouraged. It will enrich the theoretical foundation of the limited leisure and tourism research on this group of people. Additionally, it will help parks practitioners further understand Chinese Canadians, one of the largest immigrants group in Canada.

Reference

Armstrong, J.S. (1975). Monetary incentives in mail surveys. *Public Opinion Quarterly, 39*, 111-116.

Ajzen, L. & Fishbein, M. (1977). Attitude-behavior relations: a theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-918.

Bain, M. M. (2007). National Parks and new Canadians: an exploration of culture, nature and meaning. Master thesis.

Benavidez, A.D. (2006). Health and Human Services. In: C.W. Stenberg & S. L. Austin (Ed.), *Managing local government services,* (pp.253-284). Washington, DC: ICMA.

Berry, J.W. (1980). Acculturation as varieties of adaptation. In A. Padilla (Ed.), *Acculturation: Theory, models and some new findings* (pp. 9-25). Boulder: Westview.

Berry, J. W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology: An International Review, 46*, 5-68.

Brammel, G. (1996). *Other factors that affect leisure behaviour (3ʳᵈ ed.), Human behaviour.* Chicago: Brwon & Benchmark Publisher.

Burchell, (1992). The effect of questionnaire length on survey response. *Quality and Quantity, 26*(3), 233-244.

Chavez, D. J. (2001). *Managing outdoor recreation in California: Visitor contact studies 1989–1998 (General Technical Report PSW-GTR-180).* Albany, CA: USDA Forest Service, Pacific Southwest Research Station.

Chen, P. (1999). *Modern Chinese: History and sociolinguistics.* New York: Cambridge University Press.

Christensen, J. & Yoesting, D. (1973). Leisure orientation and recreational activities of retirement community residents. *Journal of Leisure Research, 2*, 6-15

Clayton, S. (2003). Environmental identity: a conceptual and an operational definition. In: S. Clayton & S. Opotow (Ed.), *Identity and the natural environment: the psychological significance of nature,* (pp. 45-65). Cambridge, MA: Massachusetts Institute of Technology.

Cohen, J. W. (1988). Statistical power analysis for the behavioral sciences (2ⁿᵈ edn). Hillsdale, NJ: Lawrence Erlbaum Associates.

Deng, J. (2004). Attitudes toward National Parks, the environment, and leisure: a comparison between Chinese in Canada and Anglo-Canadians. Doctor's Dissertation.

Deng, Y., Walker, G., & Swinnerton, G. (2005). A comparison of attitudes toward appropriate use of national parks between Chinese in Canada and Anglo-Canadians. *World Leisure, 47*(3), 28-41.

DeVellis, R.F. (2005). *Scale development: theory and applications.* Thousand Oaks, Calif: Sage Publish.

Dewing, M. (2009). Canadian Multiculturalism. Retrieved October 15, 2009, from the World Wide Web: http://www2.parl.gc.ca/Content/LOP/ResearchPublications/prb0920-e.htm

Dion, K.L. & Dion, K.L. (1996). Chinese adaptation to foreign cultures. In M.H. Bond (Ed.), *The handbook of Chinese psychology,* (pp. 457-478). New York, NY, US: Oxford University Press.

Dwyer, J. F., & Gobster, P. H. (1997). The implications of increased racial and ethnic diversity for recreation resource management, planning, and research. In W. F. Kuentzel (Ed.), *Proceedings of the 1996 Northeastern Recreation Research Symposium, General Technical Report NE-232*, (pp. 3–7). Radnor PA: USDA, Forest Service, Northeastern Forest Experiment Station.

Ferber, R. (1977). Research by Convenience. *The Journal of Consumer Research, 4*(1), 57-58.

Floyd, M. F. (1999). Race, ethnicity and use of the national park system. *Social Science Research Review, 1*(2), 1–24.

Floyed, M.F. & Gramann, J.H. (1993). Effects of acculturation and structural assimilation in resourced based recreation: The case of Mexican Americans. *Journal of Lieusre Research, 25*(1), 6-21.

Floyd, M.F., Shinew, K., McGuire, F., & Noe, F. (1994). Race, class, and leisure activity preferences: Marginality and ethnicity revisited. *Journal of Leisure Research, 26,* 158-173.

Gobster, P.H. (2002). Managing urban parks for a racially and ethnically diverse clientele. *Leisure Sciences, 24*(2), 143–159.

Goldmann, G. (1998). The measurement of acculturation. *Canadian Studies of Population, 25* (2), 115-144.

Gómez, E. (2002). The Ethnicity and Public Recreation Participation Model.

Leisure Sciences, 24(2), 123–142.

Gómez, E. (2006). The Ethnicity and Public Recreation Participation (EPRP) Model: An assessment of unidimensionality and overall Fit. *Leisure Sciences, 28*(3), 245-265.

Goodenough, W.H. (1957). Cultural anthropology and linguistics. In P. Garvin (Ed.), *Report of the Seventh Annual Round Table Meeting on Linguistics and Language Study*, Washington, D.C.: Georgetown Univ. Monogr. Ser. Lang. and Ling.

Gordon, M.M. (1964). *Assimilation in American life.* New York: Oxford University Press.

Göritz, A.S. (2004). The impact of material incentives on response quantity, response quality, sample composition, survey outcome, and cost in online access panels. *International Journal of Market Research, 46*(3), 327-345.

Gramann, J. H., Floyd, M. F.,&Saenz, R. (1993). Outdoor recreation and Mexican American ethnicity: A benefits perspective. In A. W. Ewert, D. J. Chavez, & A. W. Magill (Eds.), *Culture, conflict, and communication in the wild land-urban interface*, (pp. 69–84). Boulder, CO:Westview Press.

Greer, T.V., Chuchinprakarn, R., & Seshadri, S. (2000). Likelihood of participating in mail survey research: Business Respondents' perspectives, Industrial Marketing Management, 29(2), 97-109.

Groves, R.M., Cialdini, R.B., & Couper, M.P. (1992). Understanding the decision to participate in a survey. *Public Opinion Quarterly, 56*(4), 475-495.

Groves, R. M., & Couper, M. P. (1998). *Nonresponse in household interview surveys.* New York: John Willey.

Hager, M. A., Wilson S., Pollak T. H., & Rooney P.M. (2003), Response rates for mail surveys of nonprofit organizations: a review and empirical test, *Nonprofit and Voluntary Sector Quarterly, 32*(2), 252-267.

Hall, M.H., & Rhyne, D. (1989). *Leisure behaviour and recreation needs of Ontario's ethnocultural populations.* Toronto: Ministry of Tourism and Recreation.

Hsu, F.L.L. (1981). *American and Chinese: Passage to differences* (3rd ed.). Honolulu: University of Hawaii Press.

Hung, K. (2003). Cultural diversity in protected areas: A study of the Chinese in Vancouver. Retrieved on February 6, 2009, from Word Wide Web: http://www.sampaa.org/PDF/ch6/6.1.pdf

Hutchison, R, (1987), Ethnicity and urban recreation: Whites, blacks, and Hispanics in Chicago public parks. *Journal of Leisure Research, 19*, 205-222.

Irwin, P., Gartner, W. & Phelps (1990), Mexican-American/Anglo cultural differences as recreation style determinants. *Leisure Sciences, 12*, 335-34.

Iso-Ahola, S. E. (1980). *The social psychology of leisure and recreation.* Dubuque, IA: William C. Brown.

Jaakson, R. G, (1973), A preliminary bicultural study of value orientation and leisure attitudes. *Journal of Leisure Research, 5*(4), 10-22.

Johnson, C.Y., Bowker, J.M., English, D.B.K., & Worthen, D. (1998). Wildland recreation on the rural south: An examination of marginality and ethnicity theory. *Journal of Leisure Research, 30*(1), 101-120.

Kalton, Grahan, J. & Schuman, H. (1982). The effect of the question on survey responses: a review. *Journal of the Royal Statistical Society, 145*(1), 42-73.

Kraus, R. (2001). *Recreation and leisure in modern society* (6th ed.). Boston: Jones and Bartleet Publishers.

Li, C.L., Absher J. D., Graefe A. R. & Hsu Y. C. (2008). Services for culturally diverse customers in parks and recreation. *Leisure Sciences, 30*(1), 87-92.

Li, C.L., Chick, G.E., Zinn, Absher J. D. & Graefe, A.R. (2007). Ethnicity as a variable in leisure research, *Journal of Leisure Research, 39*(3), 514-545.

Li, ZH.R. & Chai, Y.W. (1999). Characteristics of citizens' leisure time use on weekends in Dalian city (in Chinese). *Economic Geography, 19*(5), 80-84.

Liu, ZH.L., Chai, Y.W. & Gong, H. (2000). The study on citizens' leisure time use in Shenzhen city (in Chinese). Human Geography, 15(6), 46-50.

Marin, G., & Marin, B. (1991). Research with Hispanic populations. In: L. Bickman & D. J. Rog (Series Eds.), *Applied research methods series: Vol.23*. Newbury Park, CA: Sage.

McGorry, S.Y. (2000). Measurement in a cross-cultural environment: survey translation issues. *Qualitative Market Research: An International Journal, 3*(2), 74-81.

Mendoza, R. H. (1989). An Empirical scale to measure type and degree of acculturation in Mexican-American adolescents and adults. *Journal of Cross-Cultural Psychology, 20*(4), 372-385.

Murray, E. J. (1964). *Motivation and Emotion*. Englewood Cliffs, NJ: Prentice Hall.

Nagel, J. (1994). Constructing ethnicity: Creating and recreating ethnic identity culture. *Social Problems, 41*, 152-176

Neulinger, J. & Raps, C.S. (1972). Leisure attitudes of an intellectual elite. Journal of *Leisure Research, 4*, 196-207.

Orozco, S., Thompson, B., Kapes, J. & Montgomery, G.T. (1993). Measuring the acculturation of Mexican Americans: A covariance structure analysis. *Measurement and Evaluation in Counselling and Development, 25*(4), 149-155.

Padilla, A. M. (1980). *Acculturation: Theory, models and some new findings.* Boulder, CO: Westview Press.

Pallant, J., (2005). *SPSS survival manual (second edition).* Australia: Allen & Unwin.

Payne, L.L., Mowen, A.J., & Orsega-Smith, E. (2002). An examination of park preferences and behaviors among urban residents: The role of residential location, race, and age. *Leisure Sciences, 24(2)*, 181-198.

Paul, G.H. (2002). Managing urban parks for a racially and ethnically diverse clientele. *Leisure Sciences, 24*(2), 143-159.

Ragheb, M.G. & Beard, J.G. (1982). Leisure attitude measurement. *Journal of Leisure Research, 14*(2), 155-167.

Ragheb, M.G. & Tate, R. L. (1993). A behavioural model of leisure participation, based on leisure attitude, motivation and satisfaction. *Leisure Studies, 12*, 61-70.

Ryder, A.G., Alden, L. E., & Paulhus, D. L. (2000). Is acculturation unidemensional or bidemensional? A head-to-head comparison in the prediction of personality, self-identity, and adjustment. *Journal of Personality and Social Psychology, 79*(1), 49–65.

Si. S.X. (2005). Research methodology for cross-cultural management studies: a comparison of questionnaire surveys. In A. Brown and D. Remenyi (Eds)., *Conference on Research Methodology for Business and Management Studies (pp. 403-408)*, Université Paris Dauphine, Paris France.

Singer, E., Gebler, N., Raghunnathan, T., & McGanagle, K. (1999). The effect of incentive on response rates in interviewer-mediated surveys. *Journals of Official Statistics, 15*(2), 217-230.

Snepenger, D., King, J., Marshall E. & Uysal, M. (2006). Modeling Iso-Ahola's motivation theory in the tourism context. *Journal of Travel Research, 45,* 140-149.

Stamps, S, & Stamps, M, (1985). Race, class and leisure activities of urban residents, *Journal of Leisure Research, 17*, 40-56,

Statistics Canada. (1996). 1996 census dictionary: Final edition. Retrieved February 23, 2000, from the World Wide Web: http://www.statcan.ca:80/english/freepub/92-351-UIE/free.htm

Statistics Canada. (2005). Study: Canada's visible minority population in 2017. . Retrieved May 15, 2009, from the World Wide Web: http://www.statcan.gc.ca/daily-quotidien/050322/dq050322b-eng.htm

Statistics Canada. (2006a). 2006 Census: Immigration, citizenship, language, mobility and migration. Retrieved May 15, 2009, from the World Wide Web: http://www.statcan.gc.ca/daily-quotidien/071204/dq071204a-eng.htm

Statistics Canada. (2006b). Immigration in Canada: A portrait of the foreign-born population, 2006 Census: Findings. Retrieved May 15, 2009, from the World Wide Web: http://www12.statcan.ca/census-recensement/2006/as-sa/97-557/index-eng.cfm?CFID=3618779&CFTOKEN=94849541

Statistics Canada. (2006c). 2006 Census: Ethnic origin, visible minorities, place of work and mode of transportation. 2006 Census: Findings. Retrieved May 15, 2009, from the World Wide Web: http://www.statcan.gc.ca/daily-quotidien/080402/dq080402a-eng.htm

Suinn, R. M., Ahuna, C., & Khoo, G. (1992). The Suinn-Lew Self-Identity Acculturation Scale: Concurrent and factrrial validation. *Educational and Psychological Measurement, 52,* 1041-1046.

Suinn, R. M., Rickard-Figueroa, K., Lew, S., & Vigil, P. (1987). The Suinn-Lew Asian Self-Identity Acculturation Scale: An initial report. *Educational and Psychological Measurement, 47*, 401-407.

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th edn). New York: HarperCollins.

Thompson, T. D. (2008). Examining the effects of race, ethnicity, gender, age, and socioeconomic status on U.S. National Park visitation: an application of the multiple hierarchy stratification perspective. Master Thesis.

Tsai, E.H. (2000). The influence of acculturation on perception of leisure constraints of Chinese immigrants. *Wold Leisure, 42*(4), 33-42.

Walker, G., Deng, Y. & Dieser, R.B. (2001). Ethnicity, acculturation, self-construal, and motivations for outdoor recreation. *Leisure science, 23*(4), 263-283.

Wang, J. & Stringer, L.A. (2000). The impact of Taoism on Chinese leisure. *World Leisure Journal, 42*(3), 33-41

Washburne, R. (1978). Black under-participation in wildland recreation: Alternative explanations. *Leisure Sciences, 1*(3), 175-189.

West, P. C. (1989). Urban region parks and Black minorities: Subculture, marginality, and interracial relations in park use in the Detroit metropolitan area. *Leisure Sciences, 11*, 11–28.

Willimack, D.K., Schuman, H., Pennell B.E. & Lepkowski, J.M. (1995). Effects of a prepaid nonmonetary incentive on response rates and response quality in a face-to-face survey. *Public Opinion Quarterly, 59*(1), 7-92.

Winter, P.L. & Chavez, D. J. (2003). Wild land recreationists' natural resource management purposes and preferences: A connection to environmental identity. In: S. Clayton & S. Opotow (Ed.), *Identity and the natural environment: the psychological significance of nature,* (pp. 163-174). Cambridge, MA: Massachusetts Institute of Technology.

Yang, G.L. (2002). A study on the features of leisure behaviours of urban residents ——Taking Chengdu as an example (in Chinese). *Tourism Tribune, 17*(2), 52-56.

Yu, J., & H. Cooper. (1983). A quantitative review of research design effects on response rates to questionnaires. *Journal of Marketing Research, 20*, 36-44.

Yang, K.S.(1981). Social orientation and individual modernity among Chinese students in Taiwan. *Journal of Social Psychology, 113*, 159-170.

Yu, P., & Berryman, D.L. (1996). The relationship among self-esteem, acculturation, and recreation participation of recently arrived Chinese immigrant adolescents. *Journal of Leisure Research, 28*(4), 251-273.

Zhen, G.Y. & Zhu, L.X. (2006). A study on the features of leisure behaviour of Shanghai residents (in Chinese). *Tourism Science, 20*(2), 60-64.

Appendix 1: Information Letter

Faculty of Physical Education and Recreation

_____

Chinese Canadians Intentions to visit parks:
Information Sheet for participants

Dear participants:

This research project is designed to help parks managers and planners to better understand Chinese Canadians' experiences in parks and their culturally diverse needs. The attached questionnaire asks for your thoughts and opinions about environment, leisure and your experiences in parks. Results from this study will enable parks managers and planning professionals to serve Chinese Canadians better in future. The information you provide will also contribute to scholarly knowledge about ethnic recreation. I am conducting this research as part of my Masters Degree studies at the Faculty of Physical Education and Recreation at the University of Alberta. I will share the findings from this study with fellow academics through presentations at conferences and in journal articles. This research project is funded by **Alberta Sport, Recreation, Parks & Wildlife Foundation** and **Parks Canada**. The questionnaire should take you approximately 15 minutes to complete. Please take time to fill it out; your thoughts are important to park managers!

Participation is voluntary and confidentiality of all information is guaranteed. **No personal information will be given out with the study's final results.** The project has been reviewed by the University of Alberta's Faculties of Physical Education and Recreation (PER) and Agricultural, Life, and Environmental Sciences (ALES) Research Ethics Board. You may decline to answer this survey or any part of it. There are no known risks associated with this project for participants. Information you provide by completing this questionnaire will only be handled by me and my Master's thesis supervisor, Dr. Elizabeth Halpenny. To ensure confidentiality personal information will be coded and stored in a locked cabinet to which only me and my supervisor has access to. Information is normally kept for a period of five years post-publication, after which it will be destroyed. Please note that by completing the survey you indicate that you are agreeing to participate in this study and share the information with the researcher. Upon verbal or written request your information will be removed from the study.

Comments and questions about this project can be directed to me or my supervisor Dr. Elizabeth Halpenny. If you have concerns about this study, you may contact Dr. Wendy Rodgers, Chair of the Faculties of Physical Education and Recreation (PER) and Agriculture, Life, and Environmental Sciences (ALES) Research Ethics Board, at 780-492-8126. Dr. Rogers has no direct involvement with this project.

Thank you for participating in this project.

Yours sincerely,
Yanan Lin
Yanan Lin, Master's student
Principal Investigator
Faculty of Physical Education and Recreation
E-419 Van Vliet Centre, University of Alberta
Edmonton, AB, T6G 2H9
email: yanan5@ualberta.ca
tel: 780-492-5702

Elizabeth Halpenny, PhD
Supervisor
Faculty of Physical Education and Recreation
E-419 Van Vliet Centre, University of Alberta
Edmonton, AB, T6G 2H9
email: elizabeth.halpenny@ualberta.ca
tel: 780-492-5702

Appendix 2: Study Questionnaire

Chinese Canadians' Intentions to Visit Parks Questionnaire

Dear participant: This research project is designed to help parks managers and planners to better understand Chinese Canadians' experiences in parks and their culturally diverse needs. Results from this study will enable parks managers and planning professionals to serve Chinese Canadians in future. The information you provide will be treated confidentially. You may choose to not answer any questions that you wish. **Thank you** for taking the time to participate in this study.

Section A: Ethnicity and Sub-cultural Characteristics

1. **Which ethnic or cultural group(s) do you belong to?** *(Select only one)*
   □ Canadian (close to Canadian culture)   □ Chinese (close to Chinese culture)
   □ Chinese Canadian (mixed culture)   □ other, please specify _____

2. **If you consider yourself as Chinese, which sub-cultural group(s) do you belong to?**
   (Select only one)
   □ Mainland   □ Hong Kong
   □ Taiwan   □ other, please specify _____

Section B: Culture

List below are statements about culture. Indicate with a circle or 'X' on each scale below the degree to which you agree with the following statements: *(e.g., Strongly Disagree ---◯-- ---|------|------|----- Strongly Agree)*

3. **I prefer to speak and write in Chinese (including Mandarin and Cantonese).**

   Strongly Disagree -----|------|------|------|------|------|----- Strongly Agree

4. **I prefer to speak and write in English.**

   Strongly Disagree -----|------|------|------|------|------|----- Strongly Agree

5. **I often participate in Chinese culture (e.g. Chinese New Year).**

   Strongly Disagree -----|------|------|------|------|------|----- Strongly Agree

6. **I often participate in Canadian culture (e.g. Canadian Thanksgiving Day).**

   Strongly Disagree -----|------|------|------|------|------|----- Strongly Agree

7. **I would prefer to eat Chinese food at home.**

   Strongly Disagree -----|------|------|------|------|------|----- Strongly Agree

8. **I would prefer to eat Canadian food at home.**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

9. **I am comfortable interacting with people that are typically Chinese.**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

10. **I am comfortable interacting with people that are typically Canadian.**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

11. **Most of my friends are Chinese or Chinese Canadians.**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

12. **Most of my friends are Euro-Canadians.**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

13. **I often behave in ways that are typically Chinese (e.g. one should be modest).**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

14. **I often behave in ways that are typically Canadian.**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

15. **I believe in the values of Chinese culture (e.g. I will financially support my parents when they are old).**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

16. **I believe in the values of Canada culture (e.g. I believe in strong societal support for those who can not help themselves).**

Strongly Disagree ----- | ------ | ------ | ------ | ------ | ------ | ----- Strongly Agree

The following three sections are statements about people's attitudes toward leisure, environment and parks. State the degree to which you agree with the following statements (please mark the corresponding box):

Section C: Leisure Attitudes

17. State the degree to which you agree or disagree with the following statements about leisure:	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
a. Leisure pursuits are beneficial to individuals and society	□	□	□	□	□
b. Leisure pursuits contribute to one's health	□	□	□	□	□

93

17. State the degree to which you agree or disagree with the following statements about leisure:

	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
c. Leisure pursuits increase one's happiness	☐	☐	☐	☐	☐
d. Leisure increases one's work productivity	☐	☐	☐	☐	☐
e. My leisure pursuits give me pleasure	☐	☐	☐	☐	☐
f. I like my leisure pursuits	☐	☐	☐	☐	☐
g. My leisure pursuits are fulfilling	☐	☐	☐	☐	☐
h. I can be myself during my leisure	☐	☐	☐	☐	☐
i. I feel guilty about enjoying in leisure	☐	☐	☐	☐	☐
j. I spend considerable time and effort to be more competent in my leisure pursuits	☐	☐	☐	☐	☐
k. I spend considerable money on my leisure pursuits	☐	☐	☐	☐	☐
l. I engage in leisure pursuits even when I am busy	☐	☐	☐	☐	☐
m. I give my leisure high priority among other pursuits	☐	☐	☐	☐	☐

Section D: Environmental Identity

18. Indicate the degree to which you agree or disagree with the following statements about nature:

	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
a. I really enjoy spending time in nature areas such as parks and green spaces	☐	☐	☐	☐	☐
b. Engaging in environmentally-friendly behaviour is important to me	☐	☐	☐	☐	☐
c. I think of myself as part of nature, not separate from it	☐	☐	☐	☐	☐
d. If I had enough time or money, I would certainly devote some of it to working for environmental causes	☐	☐	☐	☐	☐
e. When I am stressed or upset, I can feel better by spending some time outdoors "communing with nature"	☐	☐	☐	☐	☐
f. I spend a lot childhood playing outdoors	☐	☐	☐	☐	☐
g. I feel that I receive spiritual sustenance from experiences with nature	☐	☐	☐	☐	☐
h. Behaving responsibly toward the Earth – living a sustainable lifestyle – is part of my moral code	☐	☐	☐	☐	☐
i. Learning about the natural world should be an important part of every child's upbringing	☐	☐	☐	☐	☐
j. I would rather live in a small room or house with a view of nature than a bigger room or house with a view of other buildings	☐	☐	☐	☐	☐
k. I would feel that an important part of my life was missing if I was not	☐	☐	☐	☐	☐

18. Indicate the degree to which you agree or disagree with the following statements about nature:

	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
able to get out and enjoy nature from time to time					

Section E: Attitudes towards Parks

19. Please state the degree to which you agree or disagree with the following statements about parks:	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
a. Visiting parks improves people's health	□	□	□	□	□
b. Visiting parks enables me to enjoy nature	□	□	□	□	□
c. Parks offer all the facilities and services that I feel are important (e.g., washrooms, adequate staff).	□	□	□	□	□
d. I am comfortable with visiting wilderness-oriented parks	□	□	□	□	□
e. Visiting parks allows an escape from my everyday routine	□	□	□	□	□
f. Parks provide a place for me to exercise	□	□	□	□	□
g. Parks can be an unsafe place to visit (e.g., due to wild animals).	□	□	□	□	□
h. Visiting parks allows me to spend time with family and friends.	□	□	□	□	□
i. I prefer to visit wilderness-oriented parks, rather than highly developed parks (e.g., sports fields or amusement parks).	□	□	□	□	□
j. I am comfortable visiting my neighbourhood park	□	□	□	□	□

Section F: Visitation to Parks

This section asks questions about your visitation to local parks and distant parks. <u>Local parks</u> refer to parks near where you live that are easy to access. <u>Distant parks</u> refer to parks far away from your home, which require you to drive several hours to reach or stay overnight to enjoy (e.g., Algonquin Provincial Park, Pinery Provincial Park).

20. How often did you visit parks and natural areas as a child (16 years of age of under)?
(Check the most appropriate answer).

□ Less than once in 3 years   □ Several times per year
□ Once in 3 years   □ At least once per month
□ Once per year

If you emigrated from Mainland/Hong Kong/Taiwan please complete the following questions, if you were born in Canada please move to Question 23.

21. **How often did you visit <u>local parks and neighbourhood natural areas</u> in Mainland/Hong Kong/Taiwan?** *(Check the most appropriate answer)*
    □ Light users (three times/year or less)   □ Most frequent visitors (virtually everyday/every week)
    □ Moderate users (4-25 times/year)   □ I do not know
    □ Heavy users (> 25 times/year)

22. **How often did you visit <u>distant parks</u> in Mainland/Hong Kong/Taiwan?** *(Check the most appropriate answer)*
    □ Less than once in 3 years)   □ 4-25 times/year
    □ Once in 3 years   □ > 25 times/year
    □ Once per year   □ Virtually everyday/every week
    □ 3 times/year or less   □ I do not know

23. **How often have you visited <u>local parks and neighbourhood natural areas</u> in the last year?**
    (Check the most appropriate answer)
    □ Light users (three times/year or less)   □ Most frequent visitors (virtually everyday/every week)
    □ Moderate users (4-25 times/year)   □ I do not know
    □ Heavy users (> 25 times/year)

24. **How often have you visited <u>distant parks</u> in the last year?** *(Check the most appropriate answer)*
    □ Less than once in 3 years)   □ 4-25 times/year
    □ Once in 3 years   □ > 25 times/year
    □ Once per year   □ Virtually everyday/every week
    □ 3 times/year or less   □ I do not know

25. **What percentage of your annual recreation and leisure time is devoted to visiting local and distant parks?**

    _____% of my recreation and leisure time is devoted to <u>local parks</u> visitation

    _____% of my recreation and leisure time is devoted to <u>distant parks</u> visitation

26. **(a)What prohibits you from visiting your <u>local parks</u>?**

    _____

    _____

    (b)What prohibits you from visiting <u>distant parks</u>?

    _____

    _____

27. If you could change _three_ things about the experiences provided by <u>local parks</u> you have visited, what would they be _(i.e. information center, Chinese language services, signage in Chinese, map, washrooms, parking lot, more entertainment facilities, facilities for children, etc.)?_

a. _____

b. _____

c. _____

28. If you could change _three_ things about the experiences provided by <u>distant parks</u> you have visited, what would they be _(i.e. information center, Chinese language services, signage in Chinese, map, washrooms, parking lot, more facilities, roofed accommodations and campgrounds, etc.)?_

a. _____

b. _____

c. _____

29. How regularly did you participate in the following activities in parks as a child (under age of 16) and how often do you currently engage in these activities while in parks?

	Childhood Participation				Present Participation			
	Never	Rarely	Sometimes	Regularly	Never	Rarely	Sometimes	Regularly
a. Sightseeing	☐	☐	☐	☐	☐	☐	☐	☐
b. Sightseeing by car	☐	☐	☐	☐	☐	☐	☐	☐
c. Taking pictures	☐	☐	☐	☐	☐	☐	☐	☐
d. Wildlife watching	☐	☐	☐	☐	☐	☐	☐	☐
e. Picnicking and barbeque	☐	☐	☐	☐	☐	☐	☐	☐
f. Sitting, relaxing and rest	☐	☐	☐	☐	☐	☐	☐	☐
g. Talking and socializing	☐	☐	☐	☐	☐	☐	☐	☐
h. Watch organized sports	☐	☐	☐	☐	☐	☐	☐	☐
i. Walking	☐	☐	☐	☐	☐	☐	☐	☐
j. Walking the dog	☐	☐	☐	☐	☐	☐	☐	☐
k. Jogging and running	☐	☐	☐	☐	☐	☐	☐	☐
l. Hiking/ backpacking	☐	☐	☐	☐	☐	☐	☐	☐
m. Rock-climbing/ mountaineering	☐	☐	☐	☐	☐	☐	☐	☐
n. Bicycling	☐	☐	☐	☐	☐	☐	☐	☐
o. Exercising	☐	☐	☐	☐	☐	☐	☐	☐
p. Skiing / snowboarding	☐	☐	☐	☐	☐	☐	☐	☐

29. How regularly did you participate in the following activities in parks as a child (under age of 16) and how often do you currently engage in these activities while in parks?	Childhood Participation				Present Participation			
	Never	Rarely	Sometimes	Regularly	Never	Rarely	Sometimes	Regularly
q. Camping	□	□	□	□	□	□	□	□
Playing team sports (e.g. football, baseball, basketball)	□	□	□	□	□	□	□	□
r. Playing other games (e.g. mahjong)	□	□	□	□	□	□	□	□
s. Playing golf	□	□	□	□	□	□	□	□
t. Swimming	□	□	□	□	□	□	□	□
u. Fishing	□	□	□	□	□	□	□	□
v. Gathering natural edible products (e.g. fruit, mushrooms and fern)	□	□	□	□	□	□	□	□
w. Canoeing / kayaking	□	□	□	□	□	□	□	□
x. Motorized boating	□	□	□	□	□	□	□	□
y. Other, please specify: _____	□	□	□	□	□	□	□	□

30. List five things you like to do when visiting parks and indicate how well Canadian parks deliver these activities.

Activities that I like to do while visiting parks	Performance of Canadian parks			
	Very Unsatisfied	Somewhat Unsatisfied	Somewhat Satisfied	Very Satisfied
1. _____	□	□	□	□
2. _____	□	□	□	□
3. _____	□	□	□	□
4. _____	□	□	□	□
5. _____	□	□	□	□

Comments:

_____

_____

31. What activity would you like to engage in the future if provided the opportunity:

(a) When visiting local parks:

_____

(b)When visiting distant parks:

_____

32. Are there any activities in parks that you would like to engage in but the parks do not offer?

Please list:

_____

_____

33. What is your gender?   □ Male   □ Female

34. What is your age? _____ years old

35. What is your status of residency in Canada? _(Select only one)_
        □ I immigrated to Canada from another country
        □ My parents immigrated to Canada from another country
        □ My family has lived in Canada for several generations

36. If you are immigrated to Canada from another country, what year did you arrive in Canada?
Please specify: _____

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

38. What is the highest level of education you have completed? (_Check only one._)
    □ Elementary school   □ University bachelor degree
    □ High School   □ University graduate degree
    □ College diploma

39. What is your total annual family/household income before taxes? (_Check only one._)
    □ Less than $20,000   □ $80,000 - $99,999
    □ $20,000 - $39,999   □ $100,000 - $119,999
    □ $40,000 - $59,999   □ $120,000 -$139,999
    □ $60,000 - $79,999   □ >$140,000
                                   □ I prefer not to answer this

THANK YOU
for sharing your thoughts and opinions with us

Appendix 3: Receipt Table

I have received $5 in payment for completing Yanan Lin's Masters thesis survey titled **<u>Chinese Canadians' Intentions to Visit Parks Questionnaire.</u>**		
Name Printed	Signature	Date
Name Printed	Signature	Date
Name Printed	Signature	Date
Name Printed	Signature	Date
Name Printed	Signature	Date
Name Printed	Signature	Date

Appendix 4: Non-response Form

Refusals	Reasons for refusals

Appendix 5:Pre-test of Environmental Identity and Parks Attitudes Scales

Pre-test of Environmental Identity and Parks Attitudes

Section D: Environmental Identity

40. Indicate the degree to which you agree or disagree with the following statements about nature:

	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
a. I really enjoy spending time in nature areas such as parks and green spaces	□	□	□	□	□
b. Engaging in environmentally-friendly behaviour is important to me	□	□	□	□	□
c. I think of myself as part of nature, not separate from it	□	□	□	□	□
d. If I had enough time or money, I would certainly devote some of it to working for environmental causes	□	□	□	□	□
e. When I am stressed or upset, I can feel better by spending some time outdoors "communing with nature"	□	□	□	□	□
f. I spend a lot childhood playing outdoors	□	□	□	□	□
g. I feel that I receive spiritual sustenance from experiences with nature	□	□	□	□	□
h. Behaving responsibly toward the Earth – living a sustainable lifestyle – is part of my moral code	□	□	□	□	□
i. Learning about the natural world should be an important part of every child's upbringing	□	□	□	□	□
j. I would rather live in a small room or house with a view of nature than a bigger room or house with a view of other buildings	□	□	□	□	□
k. I would feel that an important part of my life was missing if I was not able to get out and enjoy nature from time to time	□	□	□	□	□

Section E: Attitudes towards Parks

41. Please state the degree to which you agree or disagree with the following statements about parks:

	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
a. Visiting parks improves people's health	□	□	□	□	□
b. Visiting parks enables me to enjoy nature	□	□	□	□	□

41. Please state the degree to which you agree or disagree with the following statements about parks:	Strongly disagree	Disagree	Agree	Strongly Agree	I don't know
c. I do not like to visit parks because they lack facilities and services that I feel are important for everyday life	□	□	□	□	□
d. I am not accustomed to wilderness oriented parks	□	□	□	□	□
e. Visiting parks allows an escape from my everyday routine	□	□	□	□	□
f. Parks provide a place for me to exercise	□	□	□	□	□
g. I do not like to visit parks because I feel visiting parks can be unsafe (e.g., wild animals)	□	□	□	□	□
h. Visiting parks allows me to spend time with family and friends	□	□	□	□	□
i. Compared to wilderness oriented parks, I prefer to visit highly developed parks (e.g., amusement park)	□	□	□	□	□

Appendix 6: Executive Summary

Corresponding to the increasingly diverse population in North American, park agencies are progressively more interested in addressing the needs of minority populations. However, parks related ethnicity studies are somewhat limited, especially those which focus on a specific ethnic community (Bain, 2007; Deng, 2004; Deng, Walker, & Swinnerton, 2005; Gobster, 2002; Thompson, 2007). Chinese Canadians are traditionally recognized as the largest visible minority group in Canada. A review of the literature has uncovered that only a few research studies have specifically examined Chinese American or Canadians' recreation (Deng, 2004; Deng & Walker, 2005; Gómez, 2002; Gómez, 2006; Hung, 2003; Thompson, 2007; Walker & Deng, 2001; Yu & Berryman, 1996).

This thesis reports on an examination of factors affecting Chinese Canadians' visitation to local parks (parks within walking distance or a short drive) and distant parks (parks that required an overnight stay to enjoy). These factors included environment identity, leisure attitudes, attitudes towards parks, level of acculturation and marginality. It was anticipated that these factors would positively predict Chinese Canadians' visitation to parks. Visitation frequencies to local and distant parks in the last 12 months were used as the indicators of parks visitation.

Environmental identity was defined as a relationship between individuals and the natural environment, which is formed and developed based on one's history, beliefs and emotional systems. Clayton's (2003) Environmental Identity Scale was used to measure this phenomenon. Leisure attitudes, which were conceptualized as cognitions, behaviours and feelings about engagement in freely chosen non-work activities, were measured using Ragheb and Beard's (1982) leisure attitudes items. Perceived benefits of parks and protected areas were used to measure park attitudes (Gómez, 2006). Acculturation, the process in which minority groups adopt or absorb a dominant group's cultural values and ethnic identities, was measured utilizing the Vancouver Index of Acculturation (Alden & Paulhuns, 2000). Marginality, an outcome characterized by less participation of minority groups in societal processes and activities due to their limited socioeconomic status, was measured using each respondent's household income and education level. A model named "Chinese Canadians' Parks Visitation Model" was created to illustrate the relationship between these factors (independent variables) and the visitation to local and distant parks (dependent variables). Gómez's (2006) Ethnicity and Public Recreation Participation Model was utilized as a theoretical basis for the Chinese Canadians' Parks Visitation Model. Respondents' participation in and preferences of different park-based activities, the constraints they experience when visiting parks and suggestions for improving park visitation experiences were also collected.

Convenience sampling of residents of three cities, Vancouver, Toronto and Edmonton was conducted. A self-completed questionnaire was used to collect data from Chinese Canadians located in these three cities. The questionnaire was offered in English, Cantonese (traditional Chinese) and Mandarin (simplified Chinese). Individuals who appeared to be Chinese were intercepted in areas where Chinese Canadian's were known

to frequent (e.g., shopping areas, recreation centers, transit centers and libraries in China Towns and at Chinese festivals). A total of 1512 people were asked to participate in the study, 636 of them agreed. Refusals rates in each city ranged from 40 to 70%; the average response rate was 42%. The main reasons for refusal were disinterest in the topic and a lack of time (respondents were asked to complete the questionnaire where they were intercepted). A total of 624 questionnaires were input into the data file: 200 from Edmonton, 205 from Toronto, and 219 from Vancouver.

Descriptive statistics revealed that almost three quarters of the respondents visited parks often as when they were children and more than half of respondents were either heavy or moderate users of local and distant parks both in their country of origin prior to immigration, as well as in the last 12 months. Additionally, passive activities (i.e., resting, photography, socializing, sightseeing and walking) characterized respondents' participation in park-based activities. Lack of time was most often reported as a constraint to visiting local parks. Most respondents mentioned other priorities, such as work, study and housework, which occupy their time. Lack of time was also the main constraint to visiting distant parks. Additionally, distance and cost are two other frequently reported constraints to visiting distant parks. Respondents' suggestions for improving the park visitor experience included better and more accessible washrooms and parking lots, more entertainment facilities and more facilities for children. Some respondents also indicated they would like to have some improvement relating to the provision of Chinese services especially at information centers, clearer maps, and a cleaner environment.

Mean scores for the study's main constructs, recorded on scales ranging from 1 (low) to 4 (high) included: environmental identity (M=3.3), attitudes towards parks (M=3.2), attitudes towards leisure (M=3.2) and level of acculturation (M=2.1). Correlations between these first three independent variables and the two dependent variables, travel to local and distant parks, were low ranging from .098 to .202 (sig. $\leq$ .05 level). Interestingly no significant correlations were present between visits to parks and the two predictor variables acculturation level and marginality.

Two multiple regression tests were then performed. The results failed to support most hypotheses that suggested positive prediction of park visitation; the exception was environmental identity's affect on park visitation. Environmental identity positively predicted visits to local (ß = .14, p$\leq$.05, R^2=5%) and distant (ß = .15, p$\leq$.05, R^2=6%) parks in the last 12 months. This is a significant contribution to the parks literature as the relationship between environmental identity and park visitation remains relatively unexplored. Further research is encouraged to examine this relationship in other ethnic populations. The examination of the parks attitudes hypothesis was also exploratory, as few studies have directly investigated park attitudes and visitation. Though the result failed to support this hypothesis, it is still speculated that park attitudes should be a useful variable that is worth investigating in the future. Researchers may want to select other methods to measure parks attitudes as the scale used in this study may not have been adequate; a more refined multi-dimensional measure of park attitudes may be needed.

For the three hypotheses related to marginality, level of acculturation and leisure attitudes, the low correlations suggest researchers should reconsider the applicability of these three hypotheses to Chinese populations. The marginality and acculturation/ethnicity theories are well developed and tested by ethnicity-related leisure studies; however, most of these studies focused on Black or Hispanic populations. From the findings of the present study, it appears that ethnicity may still effect people's leisure participation; however, it did not impact Chinese Canadian respondents' park visitation rates but rather what they did once they are at the park (i.e., respondents were more likely to participate in passive activities). Future studies are encouraged to investigate the relationship between ethnicity and leisure activity participation patterns rather than park visitation rates among Chinese populations. It is not surprising that marginality (represented by respondents education and income levels) failed to predict visitation to parks, as a large portion of Chinese Canadians possess education and household income levels similar to Anglo Canadians and therefore may not experience marginality as other populations do (i.e., Black and Hispanic Americans). As for leisure attitudes, the mismatch between respondents' leisure attitudes in general and the specific behaviour of visiting a park (i.e., lack of specificity or correspondence) may explain leisure attitude's failure to predict park visitation.

Finally, the results suggest future studies can consider other factors that may predict Chinese population's parks visitation. For instance, the past visitation rates were found to be positively related to participants' current parks visitation rates in this study. This finding suggests that past behaviour may be a predictor of Chinese Canadians' park visitation or other leisure participation patterns. Compared to other ethnic groups, Chinese populations have only recently been studied by leisure researchers. Some theories or hypotheses that have or have not been applicable for other ethnic populations should also be explored for Chinese groups. Thus explorations of other possible factors or theories that may be applicable to Chinese populations are encouraged. This will enrich the theoretical foundation of the limited leisure and tourism research on this group of people. Additionally, it will help parks practitioners further understand Chinese Canadians, one of the largest immigrants group in Canada.