

## **Immigrants' experiences of nature-based recreation in New Zealand**

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This study addresses recreational behaviours of immigrants and ethnic minorities, with a focus on nature-based recreation in national and regional parks. The study comprised a survey questionnaire that compared immigrants with New Zealand-born citizens. The study was motivated in part by research undertaken internationally that demonstrates different recreational behaviours for ethnic minorities and for those of recent migrant status. This paper reports on five aspects: frequency of use; nature of the recreation party; constraints to participation; important features of natural areas; and benefits of visiting natural areas. The data revealed statistically significant differences based on migrant status and ethnicity for a range of recreation-related variables. The migrant and ethnic minority cohort in this study had lower incomes than New Zealand-born respondents. This may suggest that marginality and ethnicity need to be considered together as explanatory variables for recreational behaviour.

**Keywords:** immigrants; ethnicity; marginality; nature-based recreation; participation; benefits

### **Introduction**

New Zealand's natural landscapes and extensive network of protected natural areas provide opportunity for a range of nature-based recreation activities. To date, broad census studies reveal reasonably high rates of participation in activities such as tramping (hiking), fishing, canoeing/kayaking, and mountain biking for the New Zealand population as a whole. However, participation rates differ between ethnic groups, with Chinese having lower participation rates than other groups (SPARC 2009). While we do not know why participation rates are lower for some ethnic groups in New Zealand, we also do not know to what extent length of residency in New Zealand shapes outdoor nature-based recreation participation and experience. Nor do we have any empirical studies which explore a range of possible factors that might shape these lower participation rates. This paper draws on the quantitative component of a mixed method study and reports on five aspects of immigrant participation in nature-based recreation in national and regional parks in New Zealand. These five aspects comprise: frequency of use; nature of the recreation party; constraints to participation; important features of natural areas; and immigrant perceptions of the benefits of visiting natural areas.

Recent shifts in immigration policy have ensured that the composition of New Zealand society now incorporates increasing numbers of immigrants from non-traditional<sup>1</sup> source countries, for example India and China, changing the cultural and ethnic composition of potential recreationists. Given that previous international

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research demonstrates that new immigrant<sup>2</sup> and ethnic minorities have low rates of participation in sport and recreation, different recreational preferences, and different perceptions of the benefits of recreation, it is likely that the changing makeup of New Zealand society will increasingly present challenges for promoters and managers of parks and recreation services. Increasing cultural diversity not only raises issues for recreation planning, but also highlights the need to explore such questions as: what shapes participation rates; whether there are different views and perceptions of nature and natural areas; and how diversity challenges and simultaneously reveals the taken-for-granted understandings of what social institutions such as national and regional parks should constitute. But before these issues can be explored fully, there is a need to document and describe recreational behaviour for immigrants, those immigrants who are also ethnic minorities, and to consider these in relation to the recreational behaviours of settled New Zealanders.

### **Literature review**

The literature relevant to this research is broad and no attempt is made here to provide a full appraisal. Rather, there are three broad areas of research that have analytical and empirical utility and a brief appraisal of each area is provided below.

#### ***Ethnicity and recreation participation***

Research addressing the role that immigration and ethnic identity play in mediating recreation participation gained momentum after the publication of McMillen's (1983) seminal work on leisure participation by Mexican-Americans in Texas. McMillen found that the patterns of leisure behaviour were associated with the level of assimilation and that there were culturally specific motivations for participation. Carr and Williams' (1993) work in a similar vein found generational status, alongside ethnicity, to be important determinants of outdoor recreation behaviour. Since these early studies, much research has focused on comparing the participation of immigrants and ethnic minorities with 'desirable' levels of participation among members of the mainstream (generally Euro-American) population (e.g. Gómez 2002, 2006; Ho et al. 2005; Johnson et al. 1998; Tinsley, Tinsley and Croskeys 2002; Virden and Walker 1999; Walker, Deng and Dieser 2001; Wolch and Zhang 2004). One consistent theme to emerge from this research attention is that ethnic minorities have lower participation in recreation and sport than their 'mainstream' counterparts. Various reasons have been advanced as to why this is the case, addressed broadly under the umbrella of constraints theory. A general consensus has been reached among researchers in this field, that ethnic minorities experience more constraints to leisure and outdoor recreation than non-minorities (Shores, Scott and Floyd 2007). Different ethnic groups also have different perceptions of fun, free time, relaxation, and recreation (e.g. Carr and Williams 1993). These perceptions or value systems in turn influence individual recreation behaviour (Johnson et al. 1998; Walker, Deng and Dieser 2001).

In this field of research the key concepts employed in analysis are *assimilation* and *acculturation* and how the extent of both shapes recreation participation amongst both immigrants and ethnic minorities. The concept of assimilation refers to the process of adaptation that occurs when two differing groups (with different social and cultural practices) share residence together in a locale (Floyd 2001, 45). Assimilation as a concept and in application through immigration policy has been

critiqued as a unidirectional concept (and practice) whereby those that move to a location are those that are required to adapt and adaptation means becoming the same (in belief, economic, recreational, and representational practice) as the majority population in their new locale. Acculturation is a concept which refers to cultural assimilation where the minority group acquires the cultural characteristics of the majority group and here ‘cultural’ generally refers to the adoption of the majority language, faith, and diet (Gordon 1964, cited in Floyd 2001, 46).

It is also important to note that there is considerable ambiguity and conflation with respect to how minority status, ethnicity, and immigrants are defined in this body of work. Ethnicity is a concept that was derived from the Greek word *ethnos*, meaning nation and is a means of defining social difference. Groups can be differentiated from each other according to the ability or inability to share a common ancestry and shared cultural practices including language, diet, religion, values, and norms. Group membership is voluntary and therefore an ‘ethnic’ status is an achieved status. Importantly, the shared ancestry is invariably linked to a notion of shared place – that is, place of origin. The concept is problematic as ethnic identity and group membership is not always voluntary, it is also often ascribed by non-members (Wade 2002). While the concept was developed to address the problematic nature of ‘race’, it has never really escaped the reality that racial identification (noting differences in skin colour) as a social practice has and continues to inform the formation of groups, social inclusion and exclusion, and more generally reductionist perceptions of difference (Wade 2004, 162). Thus, a person’s ‘ethnicity’ can for example be ascribed by other social groups on the basis of skin colour alone – where their ancestry and cultural and social practices are taken to be consequent givens. Further, when speaking of ethnic minority populations in this body of literature, most of the research has not focused on recent immigrants, but rather on minority groups who are also ethnic minority groups, but who have been resident in the society in question for many generations. Intergenerational lower participation amongst ethnic minority groups (ironically) may in fact be an outcome of successful assimilation where ethnic minorities occupy specific social spaces and places which ultimately meet the social and labour requirements of the host society. Thus, rather than assuming they have simply not acculturated, they may well be fulfilling what the society in question expects of them – to occupy a specific place in the labour market, house accordingly, and behave according to their perceived difference.

Finally, a small and important body of research has addressed how class is a significant factor in how people position themselves in relation to nature – how nature is perceived and how this informs interaction in and with nature. This research does not consider class alone, but also addresses how other group memberships ascribed variously by gender, sexuality, ethnicity, and class position produce and reproduce space and place and power relations and underpin the politics of social inclusion and exclusion (Lovelock et al. 2011; Juniu 2000, 374; Hung 2003; Soper 1995; Knowles 2008). This body of work has particular resonance for our research on recent immigrant recreation experience and practices in national parks in New Zealand, and is discussed more fully elsewhere (Lovelock et al. 2011).

### ***Immigrants and recreation***

A number of studies demonstrate that immigrants face more and different constraints to leisure than long-term (ethnic majority) residents (Juniu 2000; Stodolska 1998,

2000a; Stodolska and Alexandris 2004; Stodolska and Livengood 2006). While the constraints faced by both immigrants (ethnic minorities) and settled ethnic minority groups have been attributed to cultural differences, many constraints are more accurately resource constraints and are associated with lower socio-economic status. This has led to some debate among researchers in the field as to the relative importance of ethnicity compared with marginality (Gramann and Allison 1999; Johnson et al. 1998), although, as discussed above, ethnic minority status is invariably a determinant of marginality in many settler societies (Lovelock et al. 2011). Marginality theory maintains that minority recreation is 'frustrated' by discriminating and hegemonic factors which are largely beyond the control of minority groups (Johnson et al. 1998). Recent work, however, rejects a simple ethnicity/marginality framework, recognizing the importance of both, and how class and ethnicity interact to produce different recreation patterns (Stodolska 2000b; Wolch and Zhang 2004). While the literature demonstrates that recreation practices do change pre- and post-migration (Stodolska 2000a; Stodolska and Yi 2003), post-migration recreation is undoubtedly also linked to the host society's predisposition (and historical antecedents) to include and exclude on the basis of ethnicity, gender, sexuality, and class and how inclusion and exclusion are manifested in social and physical space and place. New immigrants do not encounter a blank canvas; rather, natural recreational areas such as national parks are social institutions and as such do not stand outside of structured social inequality (Knowles 2008; Lovelock et al. 2011).

### ***Immigrants, ethnicity, and natural area recreation***

While recreation in general has been the subject of research with respect to the role of immigration and ethnicity, relatively little attention has been paid specifically to outdoor nature-based recreation. Winter, Jeong and Godbey (2004) describe the empirical research on ethnic minority use of natural areas as 'sparse'. This may be because, as Wolch and Zhang (2004, 416) note, 'Wilderness areas are perceived as being the purview of White middle-class visitors'; other groups are seen as having less interest in nature, environmental protection, or visiting the great outdoors. In a similar vein to the broader recreation studies described above, the few studies that *have* focused on ethnicity and 'wildland' recreation have also reported lower participation by ethnic minorities and that practices differ between ethnic groups – in terms of group composition (ethnic enclosure being observed), activities, and setting preferences (Carr and Williams 1993; Hung 2003; Johnson et al. 1998; Viriden and Walker 1999; Walker, Deng and Dieser 2001; Wolch and Zhang 2004). As Hung (2003) observed however, class plays a different role in shaping engagement with wilderness areas in China. Here, only the peasant class recreate, subsist, or live in wilderness areas.

Despite calls for greater consideration of the diverse set of values, perceptions, and needs of immigrants and ethnic minority groups (Juniu 2000; Sasidharan 2002) and their incorporation into park and recreation management, little research has been undertaken outside North America. Some exploratory work in Australia (Cortis, Sawrikar and Muir 2007) has been undertaken, which reveals lower participation for culturally and linguistically diverse women. Thomas (2001) studied national parks and the Macedonian experience in Australia and explores experiences of national parks prior to migration and perceptions of the new landscape on arrival. In addition, Thomas (2002) explored Vietnamese experiences of national parks in

Australia, describing Vietnamese conceptions of nature and how this shapes their interaction with nature post-migration. These Australian studies offer a useful comparison for our New Zealand-based project, with many similarities emerging with respect to the experiential nature of recreational participation in national parks. However, there remains an absence of research of this kind in New Zealand, despite recognition that there is a research gap, particularly for nature-based recreation (Booth 2006). The *New Zealanders' Sport and Physical Activity Survey* offers some data on ethnicity and participation, but is far too broad-brush to provide the detail needed to inform theory or practice in this field, particularly in relation to immigrant experience. Spoonley and Taiapa (2009) consider immigrants and ethnic diversity, but primarily in the context of sport participation.

### ***Social institutions and social spaces***

'Wilderness' and national parks are important social institutions in contemporary society and as such reflect normative understandings of what constitutes nature and how nature should be interacted with. There is a growing body of theoretical literature that addresses the importance of understanding social space and place and how not only identity but also understandings of legitimate access and illegitimate access are proscribed and inscribed in space (Lefebvre 1991; Sibley 1995; Van Ingen 2003). What this body of work allows is a consideration of how movement within and between social spaces is shaped by sexuality, race, gender, and class and how societal inequalities can be produced and reproduced within specific social spaces, such as national parks. What is clear from this work is that social spaces, including national parks, are not neutral or benign backdrops to recreational activity; rather, they are very much social institutions that, through their daily practice, have the power to produce and reproduce social exclusion (Lovelock et al. 2011).

This paper reports on the quantitative component of a mixed method study. The aforementioned body of both theoretical and associated empirical work is useful if we want to move beyond participation rates toward understanding why people engage differently with this form of recreation. The quantitative component of our study aimed to provide an understanding of participation rates (who, where, when) and constraints, that is to provide a New Zealand-based foundation from which we could then begin to explore how new immigrant experiences of nature-based outdoor recreation are socially embedded. When considered in relation to the aforementioned body of work, this component of the study might best be described as a mapping exercise from which we can consider in more detail how and why people navigate these social spaces in the ways that they do (Lovelock et al. 2011) and what this more broadly tells us about contemporary New Zealand society, its culturally diverse constituency, and recreational behaviours.

This study helps address one of the key gaps (i.e. lack of comparative studies) in race, ethnicity, recreation, and leisure research (Gómez 2008), by providing an Antipodean comparison with the mainly North American studies to date. The aims of this paper are: to document characteristics of recent immigrant nature-based recreational use (frequency, locale, mode); and to compare and contrast the recreational practices of recent immigrants with settled New Zealanders and to identify constraints to participation. The nature of migration in New Zealand (and elsewhere), means that a study of immigrants by necessity also becomes a study of

ethnicity. Hence in this study a range of recreation participation and motivation variables are tested against both migrant status and ethnicity.

## Methods

### *The research setting*

From 1840 through to the 1960s, most immigrants came to New Zealand from the United Kingdom and Ireland (Spoonley and Taiapa 2009). With the development and consolidation of manufacturing in the 1960s immigration from the Pacific provided an important and growing pool of labour (Lovelock and Leopold 2008). This migratory flow was stemmed in response to the recession following the oil shocks in the 1970s and it would not be until the 1980s that substantial changes were made to New Zealand's immigration policy. The ongoing recession was responded to in the 1980s with radical restructuring of the New Zealand economy informed by a range of neoliberal economic and social policies. In line with these policy shifts, immigration policy also underwent significant change as New Zealand sought to align itself with the growing and emergent economies in Asia and shift toward a more service-based economy typical of a late capitalist society. For the first time in New Zealand settler history, immigrants were sought from Asia for permanent residence and the emphasis was on attracting skilled labour and those with capital to invest (Bedford and Ho 2006). While immigrants from the United Kingdom and Australia remained and continue to be numerically dominant, immigrants from a range of Asian countries comprise a significant population amongst new settlers. New Zealand, after 2000, had the highest rate of immigration per capita in the OECD, with immigrants comprising 22.9% of the population.

Immigrants from China and India have increased significantly in the last 20 years and now dominate the inflows of Asian immigrants to New Zealand. While Asians are predominant in the Auckland migrant community (13.5% of immigrants), the traditional source countries of the United Kingdom and Ireland are still the greatest source of immigrants for New Zealand overall (6.6% as compared to 6.5% from Asia) (Statistics New Zealand 2006). The *National Ethnic Population Projections: 2006–2026* predict a doubling of the Asian population by 2026 to 788,000 and Pasifika (Polynesian Pacific peoples) increasing by about 60% to 482,000 (the population of New Zealand is only 4.4 million). The effect on cities, especially Auckland (one study site), is more concentrated, with Asian population growth expected to dominate (Spoonley and Taiapa 2009). Wellington, the second study site, has an immigrant population profile more reflective of that of New Zealand as a whole, with a more diverse migrant base.

While these figures provide a broad overview of the countries of origin for new settlers in New Zealand, they of course do not provide any insight into the considerable social and cultural diversity between and within these 'national origin' categories. Nor do they provide any indication of the range and diversity of skills or economic circumstances of these new settlers both pre- and post-arrival. It is also important to note that these changes in immigration policy were contentious, provoking at times overt racism and consequently revealing how race still informs the politics of inclusion and exclusion in New Zealand society. These issues are discussed more fully by the authors in a paper which addresses the qualitative findings of this mixed method study (Lovelock et al. 2011); nonetheless, they do have a bearing on

the results we present here in terms of participation rates and constraints to participation for new immigrants.

Research throughout the 1990s and 2000s continually demonstrated that settling into New Zealand society was difficult for new immigrants from Asia and India, but particularly for immigrants from China (Boyd 2003). Yet, at this time there was no settler policy for new immigrants, nor was any concerted effort made by state organizations to address the settlement needs of a growing minority with vastly different cultural heritages and where English was often a second language. Until 2004 any assistance provided fell to the voluntary sector, with many in this sector struggling to cope with demand; interestingly, within this sector recreational organizations did not play a significant role nor did they have an increase of membership comprising new immigrants from Asia or India (Lovelock and Trlin 2007). While New Zealand moved away from manufacturing toward a service economy, the transition typical of late modernity where leisure becomes more interwoven into everyday life (Jamal, Everett and Dann 2003) arguably has not been fully realized for all. New Zealand largely remains modern for those who are economically marginal. The separation of work-leisure typical of modernity typifies the experience of the economically marginal which increasingly includes new immigrants, in particular those from Asia and South Asia.

In response to the problems faced by many new immigrants, a national settlement policy was introduced in 2004. Here, the concept of assimilation (and acculturation) was abandoned and the new concept of *integration* was embraced. Integration, in contrast to assimilation, involves both the host society and the new immigrant adapting in response to one another. No longer were new immigrants to be expected to become the same as the majority population; rather, their difference was to be celebrated and embraced (Lovelock and Trlin 2007). This represents a significant shift in as much as it assumes societal change in response to new migratory flows and it demands that social institutions will adapt and change along with changes in their constituency.

While space prevents a fuller discussion of the historical antecedents to contemporary park composition, organization, and management in New Zealand, it is important to note that these sites, as social spaces, reflect the development and establishment of national identity and are managed by the state for all New Zealanders (Lovelock et al. 2011). Yet, in many ways increasing cultural pluralism is not evident in these places. At best, biculturalism is acknowledged, where Māori as the indigenous population, the Treaty of Waitangi and the principles enshrined in this Treaty are recognized through the Conservation Act (1987). This Act outlines a commitment to the co-management of conservation estates with Māori and acknowledges New Zealand's ethnic relations policy of biculturalism (Lovelock et al. 2011). In practice, co-management has been slow to emerge and the 'bi' of the biculturalism, Māori/Pakeha, obscures an increasingly culturally and ethnically diverse 'Pakeha' constituency and simultaneously reveals that Pakeha in effect means 'white' (Lovelock et al. 2011). Clearly then to be non-white and Pakeha is a curious position to occupy in contemporary New Zealand society.

### ***The survey and survey sample***

The questionnaire survey comprised 34 questions within four sections. This paper focuses on the section that addresses frequency of participation, social interactions,

motivational factors, and features sought in natural areas. In order to foster cross-national comparisons of the data, a number of items were adapted from previous studies of migrant recreation undertaken in North America. The questions measuring frequency of participation in outdoor recreation, the nature of the recreation party (size and ethnic composition), and attributes of outdoor recreation areas were adapted from Ho et al. (2005). The items for the benefits of outdoor recreation related to interaction, family, children, escape, relaxation, exercising, and open space, and were based on Iso Ahola's Benefits of Leisure Scale (1980) substantiated by findings from Tinsley, Tinsley and Croskeys (2002) and used in Gómez' (2006) study of Puerto Ricans in Massachusetts, USA. These used a five-point Likert scale.

After consultation with informants within key ethnic/migrant groups in New Zealand, two language versions of the questionnaire were developed: English and Chinese (Mandarin). Many of New Zealand's migrant groups such as South Asians have good levels of English (English proficiency is one immigration criterion). The decision to develop a Chinese version was based in part upon language proficiency and on the size of the Chinese migrant community in New Zealand. Back-translation of the questionnaire to English was conducted to ensure item consistency.

The sample population was drawn from two study sites: Auckland (population 1 million) and Wellington (population 400,000), as these centres have the highest densities of immigrants in New Zealand. Both cities have a similar range of nature-based recreational opportunities available along their coastlines, and within their networks of regional parks and public conservation lands.

Distribution was by post, hand delivery through immigration settlement coordinators, and online advertising. Questionnaires were posted to a stratified random sample of 2000 households in order to access a broad cross-section of both immigrants and New Zealand-born residents in the study. The second method of distribution was convenience sampling, through migration settlement coordinators, to increase the representation of immigrants in the sample. Online advertising in a migrant newsletter allowed potential participants to request a questionnaire directly.

The total number of returned questionnaires was 433. This represents 22% of the distributed questionnaires, but we hesitate to call this a 'response rate' as we do not know accurately how many questionnaires were actually placed in front of how many potential respondents. Baruch (1999) acknowledges the difficulty in defining what is a 'acceptable' response rate, but notes that for some targets of traditional marketing type studies, responses as low as 36%  $\pm$  13% are the norm. Considering the issue outlined above, together with the nature of the target population (ethnicity, language, access), and the subject matter of the survey, we believe that our sample is acceptable for this type of study.

Data from the survey was entered into the SPSS statistical software and descriptive and inferential analysis undertaken, including Chi-square and ANOVA where appropriate.

### ***Immigrant status and ethnicity***

For immigrant status, three categories were included (based on length of time in New Zealand): New Zealand-born; new immigrants (up to 5 years); and settled immigrants (more than 5 years). Chronological time is not always a good guide to

‘settlement’, but the practicalities of research provide an imperative to create categories in order to facilitate meaningful data analysis for stakeholders. The cohorts used in this study are based on criteria adopted by or suggested in previous studies of immigrants (e.g. Khoo and McDonald 2001; Pernice et al. 2000; Trlin and Watts 2004).

The data for ethnicity was obtained from 11 predetermined categories based on the New Zealand Census. Ultimately these were collapsed into four categories (Table 1). A large number of ‘Other’ ethnic identities were represented, with a total of 42 different ethnicity responses. Categorization for analysis was determined as follows:

- NZ European (plus anyone who identified as a ‘New Zealander’ in the ‘Other’ category)
- European (e.g. British, Irish, German)
- Chinese
- Other (All other ethnicities, including Asian, African, and from the Americas, as well as those who identified multiple ethnicity e.g. NZ/European/Swiss or NZ/European/ Māori)

Merging 42 ethnicities into one ‘Other’ category is far from the ideal approach, as there are many and diverse ethnicities concealed within such a category. It is equally as problematic to group respondents in the ‘European’ category. As Winter, Jeong and Godbey (2004) note, studies of within-group differences are necessary to provide insight into the differences and similarities found within and between groups. Unfortunately the sheer number of ‘Other’ ethnicities in this study and the modest overall sample size precluded this here. The frequency of individual ethnicities was often quite small, preventing any meaningful statistical analysis if they were all to be treated separately.

## **Results**

### ***Sample composition***

#### *Ethnicity*

Respondents were primarily New Zealand European (46.7%), followed by Other (26.6%), Chinese (18.9%), and European (7.7%). Only four questionnaires were returned from respondents who identified as Māori, a sample too small for separate statistical analysis. While the New Zealand-born respondents were overwhelmingly of New Zealand European ethnicity, the New Immigrants cohort was dominated by ‘Other’ ethnicity, but with Chinese and European contributing significant numbers (Table 1). The Settled Migrant cohort was dominated by Chinese, with ‘Other’ a significant component too. It should be noted that a significant number of Settled Immigrants recorded their ethnicity as NZ European.

#### *Profile of respondents*

There was a significant difference in age distribution by migrant status. New Immigrants tended to fall into the younger age category, ‘25–44 yrs’, while Settled Immigrants were more prevalent in the older age categories, over 45 years of age (Table 2). Response by gender was predominantly female (64.6% as compared

Table 1. Composition of migration/ethnicity categories.

Ethnicity	Migrant Status						Total
	NZ-born		New Migrant		Settled Migrant		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
NZ European	165	89.2%	6	5.7%	29	21.3%	200
European	0	0%	20	18.9%	13	9.6%	33
Chinese	1	0.5%	22	20.8%	37	41.9%	80
Other	19	10.3%	58	54.7%	57	27.2%	114
Total	185	100%	106	100%	136	100%	427

to 35.4%) and this was reflected across migrant group and ethnicity. The majority of respondents indicated that they had a partner in New Zealand, but did not have children living with them.

Most respondents indicated they were in full-time or part-time employment. Collectively, about one-third of respondents indicated they were unemployed, retired, or students. There was a significant difference for employment status among the different migrant categories (chi-square  $p \leq 0.01$ ). New Zealand-born respondents were more likely than Immigrants to be fully employed; similarly so for part-time employment. Settled Immigrants were more likely to indicate retired status than the other groups.

All respondents were asked to indicate their annual personal income. Significant differences were found between income levels by migrant status and ethnicity (chi-square  $p \leq 0.01$ ). New and Settled Immigrants were more likely to have a lower income than New Zealand-born respondents. The majority of New and Settled Immigrants were in the lowest income bracket. Findings were similar for personal income and ethnicity. Chinese and Other respondents generally indicated lower incomes than New Zealand European or European, with the majority having an income less than NZ\$40,000, with few earning above NZ\$80,000.

All respondents were asked to indicate their highest level of formal education. Significant differences were also found for level of education by migrant status. New Immigrants are more likely than the other groups to have a university degree.

### ***Main outdoor nature-based activity***

Respondents were asked to indicate the types of nature-based recreational activities they had participated in within the past 12 months. The information sheet for participants stressed that only recreation within outdoor natural areas was to be considered in the study. This included wild and natural areas, such as those found in forest parks, national parks, conservation parks, and reserves. This also included beaches and the coastline, but away from the city centre. It was noted that outdoor natural areas did not include local urban parks, gardens, or playing fields.

The most common outdoor activities were short walks (89.6%), followed by nature viewing (58.7%), photographing nature (39.1%), and tramping/hiking/trekking (37.2%) (Figure 1). When considered by migrant status, New Zealand-born respondents tended to have higher participation rates than immigrants for all listed activities apart from nature viewing and photographing nature,

Table 2. Socio-economic profile of sample by migrant status.

Age	NZ-born		New migrant		Settled migrant		Total	Total percent
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%		
15–24 yrs	18	9.5%	7	6.6%	2	1.5%	27	6.3%
25–44 yrs	98	51.6%	62	58.5%	53	39.6%	213	49.5%
45–64 yrs	61	32.1%	31	29.2%	54	40.3%	146	34.0%
65+ yrs	13	6.8%	6	5.7%	25	18.7%	44	10.2%
Gender								
Male	65	34.2%	40	37.7%	47	35.3%	152	35.4%
Female	125	65.8%	66	62.3%	86	64.7%	279	64.6%
Partner in New Zealand								
Yes	131	68.9%	83	78.3%	96	72.2%	310	72.3%
No	59	31.1%	23	21.7%	37	27.8%	119	27.7%
Dependent Children								
Yes	65	34.6%	42	40.4%	54	41.2%	161	38.1%
No	123	65.4%	62	59.6%	77	58.8%	262	61.9%
Employment Status								
Full time	101	53.4%	38	35.8%	58	43.0%	197	45.8%
Part time	49	25.9%	19	17.9%	19	14.1%	87	20.2%
Unemployed	8	4.2%	25	23.6%	16	11.9%	49	11.4%
Student	14	7.4%	12	11.3%	6	4.4%	32	7.4%
Retired	13	6.9%	11	10.4%	31	23.0%	55	12.8%
Sickness Beneficiary	4	2.1%	1	0.9%	5	3.7%	10	2.3%
Type of Occupation								
Professional or Manager	108	69.7%	32	49.2%	56	62.9%	196	63.4%
Technician/Trade or Community/Personal Service	24	15.5%	16	24.6%	17	19.1%	57	18.4%
Clerical & Administrative or Sales	22	14.2%	9	13.8%	13	14.6%	44	14.2%
Labourer or Machinery Operators and Drivers	1	0.6%	8	12.3%	3	3.4%	12	3.9%
Personal Income								
\$40,000 or less	56	31.8%	41	55.4%	54	50.0%	151	42.2%
\$40,001 – \$80,000	72	40.9%	27	36.5%	37	34.3%	136	38.0%
More than \$80,000	48	27.3%	6	8.1%	17	15.7%	71	19.8%
Highest Level Education								
Primary school	0	0%	8	7.7%	5	3.9%	13	3.1%
Secondary school	26	13.8%	8	7.7%	21	16.4%	55	13.1%
Trade certificate or diploma	45	23.8%	18	17.3%	19	14.8%	82	19.5%
University degree or higher	118	62.4%	70	67.3%	83	64.8%	271	64.4%

mountaineering/climbing, and freshwater fishing. New Immigrants have the highest participation rates for these four activities (although the latter two activities have very low participation overall).

Respondents indicated the number of outdoor recreational activities participated in over the last 12 months (Table 3). There was a significant difference between the means ( $F(2, 43) = 3.54, p < .05$ ), with New Zealand-born participants engaging in a higher number of activities than Immigrants. Also, New Immigrants engaged in more activities than Settled Immigrants. There were also significant differences by ethnicity ( $F(3, 424) = 8.13, p \leq .001$ ): those of European ethnicity had the highest

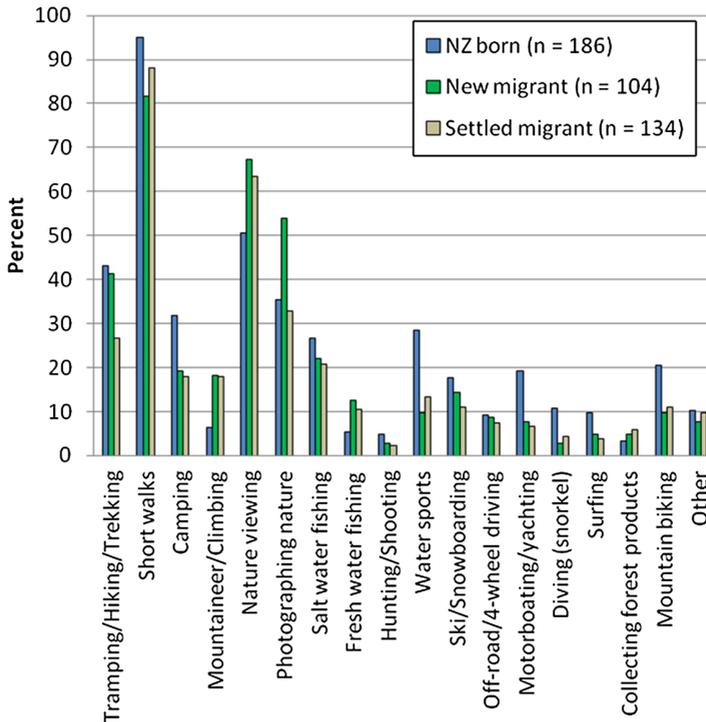


Figure 1. Primary nature-based recreation activity by migrant status.

number of activities, followed by New Zealand European. Those of ‘Other’ ethnicity and Chinese had fewer activities.

Each respondent was asked if they belonged to an outdoor activity club or organized group (i.e. tramping club, bird watching group, etc.). The majority of respondents (86.7%) were not a member of an outdoor club, with only 7.8% indicating they belonged to an outdoor club. There were no significant differences for membership to an outdoor club by migrant status or ethnicity.

### *Frequency of participation in outdoor recreation*

Respondents were asked how often they had visited natural areas for recreation purposes in the past 12 months. The most common frequency for participation

Table 3. Recreational activities participated in by migrant status and ethnicity.

Migrant Status	Mean number of recreational activities
NZ-born	4.29
New Migrant	3.88
Settled Migrant	3.53
Ethnicity	
NZ European	4.32
European	4.79
Chinese	3.15
Other	3.38

(all respondents) was 3+ times in 12 months (28.2%), followed by 1–2 times per month (21.3%), then 1–2 times in 12 months (15.4%), 3+ times per month (11.9%), weekly (11.0%), daily (6.7%), and never (3.9%). Chi-square tests revealed no differences in participation by age, gender, presence of partner or of children in household, education level, or income. Employment status has a marginal effect ( $\chi^2 = 45.86$ ;  $df = 30$ ;  $sig. = .032$ ), with retired respondents having slightly lower frequencies of participation.

Significant differences existed for frequency of participation by migrant status ( $\chi^2 = 34.07$ ;  $df = 12$ ;  $sig. = .001$ ). Both New and Settled Immigrants had higher frequencies than New Zealand-born respondents for weekly and daily/most days participation. Significant differences were also found for frequency of recreation participation by ethnicity ( $\chi^2 = 42.13$ ;  $df = 18$ ;  $sig. \leq .001$ ). Again, New Zealand European respondents' participation peaked at 3+ times/year, while respondents of European ethnicity and 'Other' tended to participate in outdoor activities more frequently, at 1–2 times per month. However, Chinese respondents participated in outdoor recreation less frequently than other groups, peaking at 1–2 times per year.

### *The nature of the recreation party*

Respondents were asked about the size of the recreation party – how often they recreate solo, with one to two people, with three or more people. Frequency categories that were provided included 'never', 'sometimes', and 'almost always'. Significant differences were found for this item by migrant status ( $\chi^2 = 12.95$ ;  $df = 4$ ;  $sig. = .012$ ), with Immigrants (and in particular New Immigrants) tending to avoid solo recreation more than New Zealand-born respondents. Respondents were asked to indicate their frequency of taking outdoor trips with 1–2 people. Again, significant differences were found for this item by ethnicity ( $\chi^2 = 13.29$ ;  $df = 6$ ;  $sig. = .039$ ). Those falling into 'Other' ethnicity tend to be more strongly represented in the 'never' recreate with 1–2 people category (and conversely less well represented in the 'almost always' category). Respondents were asked to indicate their frequency of taking outdoor trips with large groups (3 or more people). No significant differences were found by migrant status or ethnicity for this item.

Respondents were asked if they make outdoor trips with others from their own ethnic group. Overall, the most common response was 'Almost always' (30%), with only 9.6% of respondents 'Never' taking trips with their own ethnic group. Significant differences were found for this item by ethnicity ( $\chi^2 = 18.35$ ;  $df = 6$ ;  $sig. = .005$ ). New Zealand Europeans tended to recreate more with their own ethnic group. Those in the 'Other' ethnicity category were least likely to recreate just with their own ethnic group.

### *Constraints to participation*

Statistically significant differences were found by migrant status for all constraints to participation: cost of equipment, cost of transport, not having people to recreate with, distance from recreation areas, lack of knowledge of recreation areas, and lack of experience were all significant constraints to migrant recreation. For the Chinese-born and those from 'Other' countries the proximity of recreation areas to home was an important feature. Given the income data for the migrants from this study (low relative to New Zealand-born respondents), and from previous work, these

economic constraints to participation were somewhat predictable. A more detailed discussion of the constraints to participation is given in another publication (Lovelock et al., forthcoming).

### *Important features of natural areas*

Respondents were asked how important certain features were when visiting a natural area for recreation. Features included recreation facilities, scenic landscapes, wildlife abundance, water amenities, proximity to home, and information in native language. Respondents could indicate each feature as being 'very important', 'somewhat important', or 'not at all important'.

When visiting a natural area, the most significant features (based upon their ranking as 'very important') for the entire sample were scenic landscapes and recreation facilities (Table 4). Features that ranked as moderately significant were water amenities, wildlife abundance, information in native language, and proximity to home. No significant differences were found for important features of natural areas by migrant status, however there were differences by ethnicity for two features: recreation facilities and water amenities.

For the importance of recreation facilities, for example toilets, car parks, huts, and tracks, significant differences were found by ethnicity ( $\chi^2 = 29.61$ ;  $df = 6$ ;  $sig. \leq .001$ ) but not by migrant status. A significantly higher proportion of Chinese respondents (67.5%) and those of 'Other' ethnicity (76.3%) considered recreation facilities to be a 'very important' feature of natural areas, compared with New Zealand European (56.8%) and European (37.5%) respondents.

There were significant differences, by ethnicity, for the importance of water amenities (e.g. coast, rivers, lakes) ( $\chi^2 = 18.91$ ;  $df = 6$ ;  $sig. = .004$ ). Chinese respondents felt water features to be less important than did the other ethnic groups. Only 23.8% of Chinese rated water amenities as 'very important' compared with 39.5% of New Zealand Europeans, and 47% of respondents of 'Other' ethnicity.

For the importance of 'wildlife abundance' as a feature of natural areas, no significant differences were found by migrant status or ethnicity. Overall, less than one-third of all respondents (29.3%) felt that wildlife is 'very important' when visiting natural areas.

For the availability of information in respondents' native language, no significant differences were found for the importance of this item by migrant status or ethnicity. The majority of respondents (all groups) felt information in their native language was not at all important. While Chinese and 'Other' ethnicity respondents rated information in their native language as being slightly more important than

Table 4. Summary for important features of natural areas (all respondents).

Features* (Ranked in order of importance)	Very Important	Somewhat Important	Not at all Important
Scenic landscapes (n = 411)	64.5%	32.5%	3%
Recreation facilities (n = 423)	62.5%	32.5%	5%
Water amenities (n = 395)	38.5%	51.5%	10%
Wildlife abundance (n = 399)	29.5%	53.5%	17%
Information in native language (n = 402)	21.5%	27%	51.5%
Proximity to home (n = 405)	19%	59%	22%

New Zealand Europeans and Europeans, the difference was not statistically significant.

For 'proximity to home', no significant differences existed by migrant status or ethnicity. The majority of respondents overall (59%) felt that a natural area's proximity to home is 'somewhat important' for recreating there.

### *Personal benefits of visiting natural areas*

Respondents were asked to rate the importance of a number of personal benefits associated with visiting outdoor natural areas. A five-point scale was provided from 'very important' to 'not at all important'. Overall, the most important personal benefit by far for visiting natural areas (all respondents, based upon percentage of respondents rating item as 'very important') was to enjoy nature. This was followed by four benefits closely ranked: getting exercise; to spend time with family; to escape; and a place with lots of open space. A place for kids to go, and to socializes/create contacts were somewhat less important, while to gather/collect food was considered not at all important.

There were significant differences by migrant status for the following benefits of visiting natural areas: spending time with family and friends; socializing and creating contacts; and a place for kids to go (Table 5). New Immigrants rated spending time with family higher than did Settled Immigrants and New Zealand-born participants. Similarly, New Immigrants rated socializing and creating contacts higher than did Settled Immigrants and New Zealand-born respondents. The benefit of 'allows escape' was rated highest by New Zealand-born respondents, and lowest by New Immigrants.

There were also significant differences by ethnicity, for five of the eight benefits (Table 6). All ethnic groups rated the benefits of enjoying nature, exercise, and open space similarly. Chinese and 'Other' ethnicities rated the benefits of spending time with family, socializing and creating contacts, and a place for kids to go, as being more important than did those of New Zealand European and European ethnicity.

Table 5. Personal benefits of visiting natural areas, by migrant status.

Benefit	NZ-born Mean score	New Migrant Mean Score	Settled Migrant Mean Score	F
Enjoy nature (n = 414)	1.47	1.30	1.42	1.839
Exercise (n = 412)	1.62	1.73	1.71	0.666
Spend time with family (n = 408)	2.22	1.47	1.79	15.869**
Allows escape (n = 398)	1.64	2.19	2.04	10.459**
A place with lots of open space (n = 398)	1.80	1.81	2.05	2.588
A place for kids to go (n = 396)	2.83	2.45	2.82	1.954
Socialize/create contacts (n = 398)	3.03	2.44	2.90	6.664**
Gather/collect food (n = 395)	4.17	3.92	4.28	2.262

Note. Mean scores: 1 = very important, 5 = not at all important.

\*\* $p \leq 0.001$

Table 6. Personal benefits of visiting natural areas, by ethnicity.

Benefit	NZ European	European	Chinese	Other	F
Enjoy nature (n = 414)	1.45	1.22	1.47	1.37	1.251
Exercise (n = 412)	1.60	1.66	1.68	1.80	1.327
Spend time with family (n = 408)	2.14	1.84	1.64	1.70	5.463**
Allows escape (n = 398)	1.62	2.19	2.20	2.11	8.696**
A place with lots of open space (n = 398)	1.78	1.94	2.09	1.88	1.691
A place for kids to go (n = 396)	2.94	3.16	2.77	2.20	5.756**
Socialize/create contacts (n = 398)	3.08	3.10	2.71	2.45	6.003**
Gather/collect food (n = 395)	4.24	4.69	4.10	3.86	4.136*

Note. Mean scores: 1 = very important, 5 = not at all important.

\*\* $p \leq 0.001$

\* $p \leq 0.01$

New Zealand Europeans rated the benefit of 'allows escape' higher than did respondents of other ethnicities. And while it rated low overall as a benefit, gathering/collecting food was rated highest by those of 'Other' ethnicity.

## Discussion

The findings provide an interesting parallel to work undertaken in a North American setting. New Zealand as a settler society is broadly comparable to the United States in terms of its dominant Anglo population, and migrant diversity. The discussion below draws upon a number of studies undertaken in North America, however many of those studies were carried out in urban or semi-natural recreation settings. They are included here for broad comparison due to the paucity of studies that focus on migrant/ethnic minority use of sites that are wholly nature-based.

### Participation rates

Immigrants participated in fewer forms of outdoor nature-based recreation than New Zealand-born participants. New Immigrants, however, participated in more activities than Settled Immigrants. The frequency of participation data is less clear, but overall, Immigrants (both New and Settled) participated on a par with, or more frequently than New Zealand-born respondents. Chinese had the lowest rates of participation. These findings support earlier studies (e.g. Gobster 2002; Ho et al. 2005; Tinsley, Tinsley and Croskeys 2002; Winter, Jeong and Godbey 2004) showing White Americans to have higher frequencies of participation than ethnic minorities – particularly Asians.

Studies that specifically address nature-based recreation (e.g. Johnson et al. 1998) show White Americans to have higher participation than African Americans. That study, however, found significant interactions between ethnicity and socio-economic status – suggesting that African American participation in nature-based recreation is more highly dependent upon income. The present study, however, showed that the range of socio-economic variables had no statistically significant link with frequency of participation.

The migrant participation finding in this study is at odds with a number of studies of immigrants that suggest lower participation rates (e.g. Aizlewood, Bevelander and Pendakur 2006; Wolch and Zhang 2004). Although undertaken in

a semi-urban setting, Cronan, Shinew and Stodolska's (2008) study found frequency of participation to vary by activity, with immigrants participating more frequently in wildlife-related activities (e.g. bird watching/feeding), and less frequently in some other activities.

This divergence from other findings may in part be due to immigrants being attracted to New Zealand because of its nature-based recreational opportunities. New Zealand's international image (touristic and export-product-related) relies heavily upon natural images and the power of this in motivating a latent recreational demand among potential immigrants should not be discounted. The nature of the research setting we believe is also important, with both New Zealand research sites, although highly urbanized, having highly accessible coastlines and 'wildland' recreation opportunities within relative proximity. The previous North American studies have been mainly undertaken with populations in large urban settings.

### ***Recreation setting attributes***

In this study, immigrants and ethnic minorities tended to rate the importance of park attributes very similarly to non-immigrants and majority groups. However, there were differences by ethnicity around the importance of recreation facilities. Chinese and respondents of 'Other' ethnicity rated recreation facilities as more important than did New Zealand Europeans and Europeans. Gobster (2002, 154) reports that recreation preference studies show a 'greater orientation of minority groups to developed facilities and amenities that promote social interaction': minority groups may be less concerned about what Whites could see as intrusions on the natural aesthetics of a recreation site. In a similar way, in Ho et al's (2005) study of urban park preferences, recreational facilities were rated as being more important by African Americans, Hispanics, Koreans, and Chinese, compared with Whites.

Ethnic differences in the importance and usage of other park features, has been noted in a number of studies (Gobster 2002; Tinsley, Tinsley and Croskeys 2002; Winter, Jeong and Godbey 2004). Cronan, Shinew and Stodolska (2008) found Latino immigrants rated views of nature and being able to see wildlife as being more important than did non-immigrants. In the present study, the immigrants and ethnic minorities rated the importance of scenic attributes very similarly to the majority groups. One difference, however, was over water amenities – which Chinese tended to rate as being less important. This is counterintuitive for anyone who has knowledge of Chinese gardens and landscape art. And interestingly, in a study by Ho et al (2005) water amenities were rated as more important by Chinese (and Hispanics) than by Whites – the converse of the present study's findings.

### ***Recreation party***

In this study, immigrants tended to recreate solo less frequently than non-immigrants. There are parallels with previous work (e.g. Cronan, Shinew and Stodolska 2008; Gobster 2002; Tinsley, Tinsley and Croskeys 2002), where Caucasian park users are more likely to visit alone than Asian park users. In previous work, however, Asian and Latino park users have been found to be more likely to visit with larger groups – extended family and organized groups. In our study, no significant differences were found by migrant status or ethnicity for travelling in larger groups.

Previous studies have also found differences with respect to the ethnic composition of the recreation party. Ethnic enclosure – or the tendency to engage with members of their own ethnic group has been observed for ethnic minorities in some studies (e.g. Stodolska 2000). In the present study, differences were found with respect to respondents recreating with their own ethnic group. The majority group, New Zealand European respondents, were more likely to recreate with their own ethnic group than were other ethnicities. This does, however, parallel Ho et al's (2005) study, where Whites (but also African Americans) were the most likely to report that they visited parks with their own ethnic group. Hispanics, Chinese, and Japanese were less likely to do so.

### ***Personal benefits of recreation***

The present study revealed differences in a number of perceived psychosocial benefits of participating in nature-based recreation, by ethnicity and by migrant status. Immigrants (and New Immigrants in particular) rated spending time with their family as being more important than did New Zealand-born respondents. This parallels other studies that have found significant differences among ethnic groups around the socialization aspects of recreation (Tinsley, Tinsley and Croskeys 2002; Winter, Jeong and Godbey 2004). In the present study Chinese and those of 'Other' ethnicity tended to rate spending time with family, a place to socialize and create contacts, and a place for kids to go higher than did New Zealand European or European respondents. New Immigrants were also more likely to rate as more important the role of nature-based recreation in socializing and creating contacts.

We found the benefit 'to enjoy nature' to be similarly highly rated by all migrant and ethnic groups. Cronan, Shinew and Stodolska's (2008) study also found no difference in the ratings for enjoying nature between immigrants and US-born respondents. The only significant difference in their study was that immigrants had a stronger desire to see or hear wildlife or birds than those born in the US.

Another parallel is around the consumptive aspects of nature-based recreation. While not a highly rated benefit overall, our study found that those of 'Other' or Chinese ethnicity considered gathering/collecting food as more important than did the other groups. This correlates with Winter, Jeong and Godbey's (2004) study of Asian residents in San Francisco in which consumptive motivations were higher for Chinese and Filipino respondents than the other Asian ethnic groups (although these were generally low across all respondents).

Where our study departs from previous work is around the 'escape' benefit. In the present study, New Zealand Europeans and Europeans rated 'to escape' significantly higher than did other groups. However, 'escaping duty' was rated lowest by the Caucasian respondents in Tinsley, Tinsley and Croskeys' (2002) research. Somewhat in the middle ground between these two findings, Cronan, Shinew and Stodolska (2008) found no difference by migrant status for the 'escape' benefit.

Our findings also differ around the benefit of exercise. Contrary to the present study, in which exercise as a benefit was rated equally by all ethnic groups, Tinsley, Tinsley and Croskeys (2002) found that exercise was rated differently according to ethnicity, with African-Americans and Caucasians rating it higher than did Hispanic and Asian respondents. In our study, however, migrant status did not influence the

rating of exercise as a benefit – supporting Cronan, Shinew and Stodolska's (2008) study where immigrants and US-born respondents rated exercise similarly.

## **Conclusion**

This study lends support to the findings of previous recreation studies of both immigrants and ethnic minority groups. We found these groups to exhibit differences in recreation behaviours from the majority group in terms of frequency and range of participation, primary outdoor nature-based activity and composition of the recreation party. There are also statistically significant differences in the features sought in nature-based recreation settings, and in the personal benefits sought from nature-based recreation.

We also found statistically significant differences for all constraints to participation: cost of equipment, cost of transport, not having people to recreate with, distance from recreation areas, lack of knowledge of recreation areas, and lack of experience were all significant constraints to migrant recreation. The income data for the immigrants in this study reveals that their earnings are low when compared to the New Zealand-born respondents. More generally, we know from other research that for Chinese migrants achieving full economic integration can take years and for many is never fully realized (Boyd 2003). Our findings that the Chinese-born and those from 'other' countries considered that proximity of recreation areas to home was important, may well be related to this.

But within these broad behavioural and participation categories there are both similarities and subtle differences from previous studies – many of which are not readily explainable. For example, ethnic enclosure in the recreation party is not observed here with the ethnic minorities and migrant groups. This may be linked to the desire among new immigrants to maximize the use of leisure opportunities to create and expand social and work-related networks – with the goal of enhancing socio-economic status.

Another aberrant finding was that the Chinese in this study did not rate water amenities as an important feature of natural recreation settings, whereas in studies elsewhere they have. This may be because the present study was undertaken in two sites both of which have an abundance of natural water features (coastal and rivers), and therefore water dropped down the list of desirable attributes for recreation settings. In this way the desirable characteristics of a recreational setting are perhaps being identified in relation to the everyday living/working spaces of recreationists.

These are just two examples of how the study differed from previous work in this field. While overall the study reinforced our understandings of how minority groups recreate, the differences observed are just as important. Collectively, they suggest that the research setting – physically, ecologically, socially, and economically – may play a more important role in shaping the 'away' nature-based recreation practices and preferences of new immigrants and ethnic minorities than has previously been considered. While some studies have taken into account the home/away recreation setting relationship into account in terms of distance, there is a range of other characteristics of home/work settings that may create a need for a particular recreation setting or activity – which are yet to be fully considered by research. In this study, for example, minority groups were similar to the majority group in terms of their frequency of participation. While unexpected, is this finding simply a consequence of distance/proximity to nature-based recreation sites (both research

sites are endowed with a range of nature-based recreation settings in close proximity) or is it a behavioural consequence of the strong outdoor ethic of the majority group – New Zealanders as a whole? Local influences and variations such as this may frustrate ongoing attempts of researchers to clarify patterns of recreation behaviour among minority users.

Does this study take us any further down the pathway of isolating the influence of marginality, ethnicity, or integration on minority group recreational practices? The socio-economic profiles of the participants in this study show immigrants and ethnic minority participants to have significantly lower incomes than New Zealand-born respondents. But socio-economic status alone was found not to be a determinant of recreational behaviour in this study – thus strongly implicating the roles of ethnicity and integration. While integration is not specifically reported on here, we do have a very broad measure of integration;<sup>3</sup> while the number of years spent within a new country is only a rough factotum for integration (which is better measured by a range of indicators including employment, housing, social interaction, and language), nevertheless integration processes have been documented to occur over time, with the first few years being important for settlement (Khoo and McDonald 2001). Differences were found for a number of items between New and Settled Immigrants; for example New Immigrants identified the psycho-social benefits of spending time with family, and socializing/creating contacts significantly higher than Settled Immigrants.

These findings therefore lend credence to studies that have suggested that ethnicity or marginality by themselves are not adequate explanatory variables for recreational behaviour (Stodolska 2000b; Wolch and Zhang 2004). It has been suggested that ethnicity interacts with socio-economic status to produce different recreation patterns. The data from this study tends to support such assertions, however further research and analysis is needed to clarify these relationships.

This research does provide some important baseline data for the New Zealand context, and through adopting methodologies used in a number of North American studies, expands our contextual understanding of minority nature-based recreation. However, a simplistic adherence of research to the rate of recreation participation rather than the *type* and *quality* of participation, and its importance to the personal and family lives of immigrants and those from ethnic minorities will fail to assist in meeting the recreational needs of these individuals and communities. This said, we also think redressing the absence of any quantitative data on participation rates for new immigrant groups in New Zealand is an important first step and without this first step there is no foundation upon which to build more in-depth understandings of new immigrant experiences of outdoor nature-based recreation. Nor would there be the now existent opportunity to raise questions about the emergent anomalies which might be more aptly explored through qualitative research.

## Notes

1. Traditional source countries include the United Kingdom, Australia, and a range of Western European countries.
2. The terms 'immigrant' and 'migrant' are used within this research interchangeably.
3. Integration, unlike acculturation, refers to a two-way relationship between migrants and the host society; acculturation means migrants becoming like the host society.

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