

**Motivations and Meanings of
Environmental Volunteer Experiences
at Eco-leisure Destinations in New Zealand**

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List of Abbreviations

AUTEC	Auckland University Technology Ethics Committee
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CIP	Consumer Involvement Profiles
DoC	Department of Conservation
EFA	Exploratory Factor Analysis
KMO	Kaiser-Meyer-Olkin
NGO	Non-governmental organisation
NPO	Not-for-profit organisation
PIS	Participant Information Sheet
RMSEA	Root mean square error of approximation
SEM	Structural Equation Model
SPSS	Statistical Package for Social Science
UNWTO	United Nations World Tourism Organisation
VPM	Volunteer Process Model
VFI	Volunteer Function Inventory

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person, nor material that to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

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Abstract

Environmental volunteering is becoming more vital and fundamental for the health of community and environment. The purpose of this study is to identify characteristics of environmental volunteers and gain an understanding of the totality of their experiences from multidisciplinary perspectives. A theoretical model was proposed based on the Volunteer Process Model (VPM) which includes relationships between motivations of volunteers, leisure involvement in volunteering, and place attachment to eco-leisure/tourism destinations.

This study adopted positivist perspectives, and was conducted through surveys for volunteers at eco-leisure/tourism destinations in the Hauraki Gulf in New Zealand. A total of 396 valid responses were collected and analysed.

Results from the sample revealed that some specific socio-demographics were related to participation in environmental volunteering at eco-leisure/tourism settings, such as age, gender, the frequency of volunteering (episodic/ongoing), and the origin of participants (domestic/international). The analysis of socio-demographics identified three dominant groups of environmental volunteers, namely leisure volunteers, ongoing volunteers, and tourist volunteers.

An exploratory factor analysis (EFA) for motivation items identified six factors of motivation; *values of nature, career, enhancement, protective, social, and leisure*. The importance of these factors differed between episodic and ongoing volunteers, as well as between domestic and international volunteers. While ongoing volunteers put importance on *values of nature* and *leisure* motives, episodic volunteers were more motivated by *enhancement* and *protective* factors. A confirmatory factor analysis (CFA) on leisure involvement scales identified three dimensions as previous research; *attraction, centrality, and self-expression*. Also the CFA for place attachment scales revealed two dimensions; *place identity* and *place dependence*. The importance of these dimensions for environmental volunteers also differed by volunteer attributes.

The proposed model showed good fit indices, in which the motivation factors predicted the importance of leisure involvement dimensions, and leisure involvement dimensions affected the strength of place attachment to the volunteering sites. In addition, the results of the structural equation model (SEM) identified that *values of nature* and *social* factors had the most positive effect on leisure involvement overall, while *leisure* and *enhancement* were relatively important factors for leisure involvement only in the episodic volunteer group. Episodic volunteers were more driven by endogenous motivations, while ongoing volunteers were more driven by exogenous motivations. In addition, the involvement dimension of *self-expression* had a significant effect on the place attachment felt by ongoing volunteers, while *centrality* had a more significant effect on the sense of place attachment of episodic volunteers.

This study identified three segments of environmental volunteers, with differences in motivations, leisure involvement, and place attachment seen between episodic and ongoing volunteers, as well as between domestic and international volunteers. In addition, this study demonstrated the validity of a new volunteer process model for environmental volunteers including for both episodic and ongoing volunteers. The results of the survey offer new perspectives of leisure environmental volunteering and identify the various volunteer experiences of domestic and international volunteers who choose spend their leisure time in restoration activities. The findings and implications can contribute to a number of organisations in societies, including governmental and non-governmental organisations, non-profit organisations, and tourism operators.

Key words: volunteerism, leisure, tourism, volunteer tourism, motivation, leisure involvement, place attachment, Volunteer Process Model, episodic/ongoing volunteers

Chapter One: Introduction

1.1 Opening remarks

In societies of the developed world, volunteerism is more important than ever. The reduction in the size of government in neoliberal economies has meant that problems that used to be considered something for government to solve now must be handled by citizens acting in a supportive capacity. Volunteer tourism activities have expanded from a few nongovernmental organisations to a multitude of entities across the whole range of enterprise forms from full non-profits to for-profit ventures (McGehee, 2014). Broadly defined as an activity in which people pay to volunteer in development or conservation projects, volunteer tourism is one of the fastest growing alternative tourism markets in the world (Conran, 2011).

Central to this research is a case study conducted on remote islands in the Hauraki Gulf focussing on volunteer activities. Auckland, New Zealand plays a unique role as a conservation destination, as the Hauraki Gulf is home to many restoration projects that involve forest regeneration and the protection of native plants, birds, fish and other forms of wildlife. The purpose of this research is to identify characteristics of environmental volunteers and to gain an understanding of the totality of their experiences from multidisciplinary perspectives.

Specifically this study aims to understand the totality of their experiences by applying a theoretical model based on the Volunteer Process Model theory (VPM) which includes three stages of participation; antecedent, experience, and the consequence of volunteering. In turn, this study examines specific components of antecedents, experiences, and the consequences of environmental volunteering from volunteerism, leisure, and tourism perspectives, as well as the relationships between these components. By applying Volunteer Process Model (VPM) (Omoto & Snyder, 1995, 2002), Volunteer Function Inventory (VFI) (Clary, Snyder & Ridge, 1992; Clary & Snyder, 1999), and leisure involvement/place attachment relationship (Lee, 2005); a new theoretical framework creates the basis for statistical analysis from the survey central to the findings. A survey was conducted with 396 eco-conservation participants, to identify how personal values support the motivating factors to volunteer. The results of the survey offer new perspectives on leisure environmental volunteering and

identify the various volunteer experiences of domestic, international tourists and locals who choose to spend their leisure time in eco-restoration activities, specific to the Auckland region. The theoretical background underpinning this study, adopts an interdisciplinary approach by identifying participation in ecological conservation projects from three perspectives; volunteerism, leisure, and tourism.

1.1.1 Volunteerism.

Volunteerism is defined as freely chosen helping activities that are based on sustained commitment (Snyder & Omoto, 2008). In New Zealand, 44 percent of the population engaged in volunteering in 2013, which made it one of the most active volunteering nations in the world (Charities Aid Foundation, 2014). In 2008, volunteers in New Zealand contributed over 270 million hours which was worth about 133,399 full-time positions and 3.3 billion New Zealand dollars (Volunteering New Zealand, 2015). According to Charities Aid Foundation (2014), New Zealand has had the third highest rate of volunteering in the world for the last five years, with activities including helping a stranger, donating money, and volunteering time.

Traditionally, volunteerism involves activities that are continuous and occur on a regular basis, in other words are ongoing (Holmes & Smith, 2009; Snyder & Omoto, 2008). As Ryan et al. (2001) noted, a large number of ongoing volunteers is crucial for volunteer organisers, and therefore, managing and maintaining of volunteers becomes an important issue. Ongoing volunteers invest their time, commitment, and emotion without economic benefits (Bussell & Forbes, 2007). These volunteers engage in, for example, front-of-house work, direct interaction with other volunteers, and labour-intensive roles (Helmes & Smith, 2009). Cnaan and Handy (2005) stated that managerial volunteers who organise other volunteers in daily operations, and governance volunteers who are involved with a committee board are the main types of ongoing volunteers.

However, recent data shows that the total amount of time and money donated has levelled off or decreased over the last few years (Volunteering New Zealand, 2015). This negative trend is occurring at a time when volunteer organisations are required more than ever, due to government budget cuts toward community services and especially towards the natural environment. Therefore, further contributions of

volunteers are essential for community developments and nature conservation. As a result, there is a trend towards shorter and less frequent volunteering, namely volunteering on an 'episodic' basis rather than an ongoing basis, in order for volunteer organisations to gain more volunteers and maintain activities (Holmes & Smith, 2009).

Determinants of participation in volunteering have often been studied (Smith, 1994; Wilson, 2000). One of the most significant elements of volunteerism is time available and access to volunteer activities (Bussell & Forbes, 2009). According to Smith (1994), context is one of the determinants of participation in volunteering, in which communities and volunteer organisations play an important role. As Bussell and Forbes (2007) note, word-of-mouth is the most powerful tool to gain volunteers, and therefore locality is one of the most significant aspects to increase volunteer involvement. Gooch (2003) mentioned that environmental volunteering produces a sense of community within volunteers and a sense of place in the location that they volunteered. Therefore, easily access to the volunteering site without time-consuming travel may be the core factor influencing participation in environmental volunteering.

1.1.2 The environmental volunteering.

In volunteerism, there is a growing interest in environmental volunteering as it is the key area of managing natural resources as well as increasing societal health in the community (Measham & Barnett, 2008; Ryan, Kaplan & Grese, 2001). Environmental issues are directly associated with residents' well-being and health, and in turn, the quality of life in the community (Pillemer, Fuller-Rowell, Reid & Wells, 2010). Therefore, environmental volunteering is strongly connected with community health. It is also strongly associated with improving social networks in the community as well as sense of place (Gooch, 2003). In addition, global environmental issues bring a notion of worldwide citizenship, encouraging activities that contribute to other countries' natural environment to 'make a difference' (Lorimer, 2010). Some volunteers participate on a regular basis and come from the local region (Ryan and Grese, 2005), while others are international volunteer tourists that tend to participate on a one-off basis (Wearing, 2001). In other cases, environmental volunteers participate in volunteering episodically as a leisure activity (Halpenny & Cassie, 2003). However, these types of volunteers are mixed in the real context of volunteering. For example, some international volunteer tourists become ongoing volunteers due to the long

duration of the project, and episodic and ongoing volunteers often work together (Holmes & Smith, 2009). In addition, Ryan et al. (2001) acknowledged that ongoing volunteers not only work for altruistic purposes but also seek leisure opportunities such as having fun or meeting new people while environmental volunteering.

1.1.3 Leisure.

The concept of leisure goes back to ancient Greece where leisure was regarded as a symbol of freedom from compulsory labour work (Blackshaw, 2010). Leitner and Leitner (2012) defined leisure as “free or unobligated time that does not involve work or performing other life sustaining functions” (p. 3). While leisure is a category of time, the concept and definitions of leisure often involve both a category of time and an activity (Leitner & Leitner, 2012). Kaplan (1975) described modern leisure as

“relatively self-determined activity-experience that falls into one’s economically free-time roles, that is seen as leisure by participants, that is psychologically pleasant in anticipation and recollection, that potentially covers the whole range of commitment and intensity, that contains characteristic norms and constraints and that provides opportunities for recreation, personal growth and service to others” (p. 26).

The concept of leisure contains activities engaged during free time away from the normal daily routines and can include; recreational activities, day or longer excursions, and many types of volunteer experiences (Stebbins, 1982, 2004; Tinsley & Eldredge, 1995). Leitner and Leitner (2012) stated that leisure activity and recreation are synonymous, in which “recreation refers to activity performed during leisure (free time), usually for the purpose of enjoyment” (p. 4). In addition, Blockshow (2010) stated that leisure should include moments of pleasure, desire, and happiness in one’s free time when escaping from the routines of obligated work. Traveling is a form of leisure activity in which people have the opportunity to escape from their regular locality and experience new spaces. In this regards, leisure activities can be over a short or long duration, in which participants can be differentiated by the terms excursionists and tourist.

Leisure became more important in the 1980s and 1990s as modern society required people to work long hours, and therefore people called for leisure that is more meaningful and valuable especially in developed countries in which leisure time was regarded as one of the elements of life satisfaction, quality of life, or well-being of citizens (Torkildsen, 1999). However, in recent trends the total amount of leisure time has not increased much or has levelled off. For example, according to the United States Department of Labour (2015), the average time used for leisure and sport have slightly increased over the last ten years from 5.19 hours a day in 2004 to 5.30 hours in 2014. The Australian Bureau of Statistics (2010) reported that free-time including recreation and leisure slightly declined in the last decade from 5.28 hours a day in 1997 to 5.08 hours a day in 2006. According to Statistics New Zealand (2011), the total amount of free-time used for activities including mass media, social entertainment, sports and hobbies, and religious/cultural/civic activities did not change over the last ten years.

From a leisure perspective, some volunteer activities are recognised as leisure, often referred to serious leisure, defined as “the systematic pursuit of an amateur, hobbyist or volunteer activity sufficiently substantial, interesting and fulfilling for the participant to find a (leisure) career there acquiring and expressing a combination of its special skills, knowledge and experience” (Elkington & Stebbins, 2014, p. 4). The concept of serious leisure is based on substantial devoted time and endeavour for the activity, which requires deep involvement and commitment to the activities by participants (Stebbins, 1996). In this sense, serious leisure tends to be on a regular basis rather than a one-off basis. Serious leisure is more self-focused than other-focused, and therefore purposes of serious leisure are also hedonistic or recreational in which participants pursue serious leisure activities in order to improve of their leisure career.

However, as Stebbins (2005) acknowledged, volunteering as a leisure activity does not just fall in serious leisure but can also be categorised as project-based leisure, defined as “a short-term, moderately complicated, either one-shot or occasional, though infrequent, creative undertaking carried out in free time” (p. 2). Such project-based leisure volunteering is a growing trend especially in Western societies where both volunteering and leisure time have decreased, which is consistent with calling for other forms of volunteering, namely episodic volunteering (Holmes, 2015). As Stebbins (2005) notes, project-based leisure volunteering differs from serious leisure in terms of

the leisure career pursuit, so that participants of project-based leisure have less leisure career development and are instead more pleasure oriented. Twynam, Farrell and Johnston (2002) defined project-based volunteers who are motivated by the desire to have leisure experiences as leisure volunteers.

1.1.4 Tourism.

Traditionally, the definition of tourist includes geographical dimensions (outside usual environment) and temporal dimension (length of stay), in which tourists need to include at least one overnight stay outside their usual environment (United Nations World Tourism Organisation [UNWTO], 2008). However, tourism criteria may be influenced by individual perceptions of tourist identity (Yu, Kim, Chen & Schwartz, 2012). The traditional concepts of 'tourist' definitions are problematic as concepts of 'difference' and 'other' to conceptualise 'tourism' require some rethinking with respect to domestic tourism since the resident tourist is neither different nor the other. Singh and Krakover's (2015) Israeli study revealed that while the participants did not perceive themselves as tourists in their own country, they admitted to feeling like tourists in specific circumstances encountered during their domestic travels. It is important to note the three different types of participants in volunteering; domestic and international tourists, and 'excursionists' or 'day-trippers'. Excursionists or day-trippers differ from tourists as the normal definition of a tourist involves an overnight stay. So from a tourism perspective, three different types of volunteers can be identified as; 1) international tourists, 2) domestic tourists, and 3) local residents, who can be referred to as 'excursionists' or 'day-trippers'.

In 2014, over 1.1 billion tourists travelled around the world and the estimation of tourists will keep growing (UNWTO, 2015a). The tourism industry now becomes one of the largest and the fastest growing industries in the world (UNWTO, 2015b). UNWTO (2014) estimates that the tourism industry will reach 1.8 billion international tourist arrivals by 2030, and that Asia and Pacific will be the fastest growing region in the world, accepting over 535 million international tourist arrivals. Tourism is regarded as one of the most powerful and direct solutions to alleviate poverty in the host community by earning foreign currency and by creating new employment. Consequently, tourism has an important role especially in developing countries (Saarinen & Rogerson, 2014; UNWTO, 2015b).

However, as it is often argued that tourism, specifically mass tourism, has negative impacts on host countries in terms of economic, socio-cultural, and environmental aspects (Hall & Lew, 2009). Corresponding with the appearance of these negative impacts, there has been a shifting trend in the form of tourism since the 1990s to reduce negative impacts from mass tourism. This trend has called for other types of tourism to form, namely sustainable tourism, responsible tourism, or ecotourism, which all aim to maximise the positive impact and minimise the negative impact of tourism activities (Seba, 2012). In addition to the social and political requirements, the preferences of tourists have also changed, with the emergence of the experience economy (Pine & Gilmore, 1998). Tourists seek authentic experiences and alternative forms of tourism that include the tourists' passive involvement and an immersive engagement with local people in that destination, which differ significantly from commodified mass tourism experiences (Coghlan, 2006; Lepp, 2008; Lyons & Wearing, 2008; Wearing, 2001).

While leisure and tourism are technically different concepts, both include freely chosen activities for pleasure or hedonistic purposes in one's free time (Carr, 2002). The main difference between leisure and tourism is the origin of participants, in which cultural or social differences exist (Carr, 2002). That is, leisure contexts are close to the 'home environment', whereas tourism contexts are close to 'holiday environments'. In addition, as far as motivation is concerned, Iso-Ahola (1982) stated that "[i]t should not be forgotten that tourism motivation is a part of or one form of leisure motivation" (p. 257). Therefore, leisure motivations include tourism motivations.

1.1.5 Volunteer tourism.

From a tourism perspective, volunteer tourism, broadly defined as an activity in which people pay to volunteer in development or conservation projects, is an emerging and growing trend of alternative tourism providing tourists with a particular experience differing from conventional mass tourism (Benson, 2011; Butcher & Smith, 2015; Conran, 2011; Pegg, Patterson & Matsumoto, 2012). Tourism Research and Marketing (2008) estimated over 1.6million tourists engaged in volunteering overseas and the economic contribution reaches up to AU\$ 2.1 billion annually. As Tourism New Zealand (2015a) recognises, responsibility of travellers is a key component for sustainable tourism development in New Zealand, where tourism is one of the largest industries

accounting for over seven percent of the gross domestic product (GDP) (Statistic New Zealand, 2014).

Volunteer tourism has been identified to be a new form of travelling that contributes to the environment and the social development of host communities, as well as catering to tourist preferences to pursue a more memorable experience with host communities (Benson, 2010; Callanan & Thomas, 2005; Knollenberg, McGehee, Boley & Clemmons, 2014). According to SNV Netherlands Development Organisation (2009), popular activities of volunteer tourism are conservation/wildlife (e.g. animal sanctuaries, wildlife rescue, and marine or rainforest protection), community projects (e.g. renovating buildings and water in sanitation projects), education for children, and special interests (e.g. health care, arts, and science research). For international tourists, these attributes of the destination are important factors to travel away from the home country.

As Wearing (2001) asserted, volunteer tourism has a strong connection with other disciplines such as ecotourism, volunteerism, and serious leisure. However, due to the early stage of the volunteer tourism study, integration of these disciplines is not sufficient, especially applying theoretical schemes with quantitative approaches (Wearing & McGehee, 2013b). In contrast, other related disciplines such as leisure and volunteerism have accumulated discourse regarding motivations and experiences of participants. Therefore, these discourses can be integrated within the context of volunteer tourism through a quantitative approach.

Considering the contextual mixture of environmental volunteering, a matrix can be drawn to track volunteers alongside behavioural differences (Table 1). With this in mind, a central aim of this research is to utilise models from volunteerism, leisure, and tourism elements in the environmental volunteering at eco-leisure/tourism destinations in terms of their socio-demographic characteristics.

Table 1: Types of environmental volunteers

Participants types		Volunteerism perspectives		
		Episodic	↔	Ongoing
Leisure	Local day-trippers			
↕	Domestic tourists			
Tourism	International tourists			

1.1.6 Volunteer experiences and consequences.

Experiences while volunteering are important determinants of volunteer retention which is always a challenge for volunteer organisations. To increase volunteer retention, the volunteerism sector has investigated the volunteer experience processes. The Volunteer Process Model (VPM) (Omoto & Snyder, 1995, 2002) traces the dynamics of volunteer lifecycle including three stages; antecedents, experiences, and consequences. Socio-demographics and volunteer motivations are often dealt with as antecedents to understand what makes people volunteer (Wilson, 2000; 2012). Considering environmental volunteering as a form of leisure activity, leisure involvement is an important element of serious leisure participants to determine volunteer experiences (Stebbins, 1982). Leisure involvement is a concept that potentially influences people's beliefs or attitudes to induce actual behaviour (Arora, 1985; Havitz & Dimanche, 1990). The consequence of volunteering often focuses on retention of the volunteer in the volunteer organisation as well as attitude change of volunteers. As environmental volunteering works on the volunteering site directly, a sense of affection to place, namely place attachment, should be taken into account (Gooch, 2003). These findings of previous studies were conducted from separate perspectives of volunteerism, leisure, or tourism. Given that environmental volunteering at eco-leisure/tourism destination contains these perspectives inclusively, an adapted VPM including motivations, leisure involvement, and place attachment can be applied on environmental volunteers.

1.1.7 Location of the study.

Auckland in New Zealand plays a unique role as a conservation destination for both local volunteers and international volunteer tourists, as the Hauraki Gulf is home to many restoration projects that involve forest regeneration and the protection of native plants, birds, fish and other forms of wildlife. This region has been the most intensively developed and populated area in New Zealand. Due to exploitative human activities such as cutting down of native trees for timber and expanding farmlands for live-stock, the natural environment of the gulf islands has declined especially in the last century (Department of Conservation, DoC, 2010). However, this led people to be concerned about conservation of natural environment. In the 1970s one of the islands in the Hauraki Gulf, Tiritiri Matangi Island, became the first restoration project in New

Zealand to be restored to a native environment. Volunteers in this project played a central role in planting over 300,000 trees which now accommodate a number of threatened or endangered native birds (Robinson, 2008). Since that, other islands in the Hauraki Gulf have followed the Tiritiri Matangi Island project as a practical model.

Auckland is the largest city in New Zealand. Its population, now over 1.4 million, has increased 40 percent in the last decade and includes a large number of immigrants (Statistics New Zealand, 2015b). In addition, Auckland hosts increasing numbers of international and domestic tourists who impose pressure on stunning beaches, beautiful regional parks, and hundreds of walking trails containing native bush and wildlife. Auckland's natural environment and location makes the city attractive for locals, as well as domestic and international tourists, seeking outdoor leisure experiences. Auckland Council's current sport and recreation strategic plan is to increase physical and active participation of residents, which includes easy access to open-spaces, harbours, coastal lines, and waterways in particular in regional parks (Auckland Council, 2016b). As such, the condition of the natural environment in this region is under threat. It is important for locals including immigrants, and domestic and international tourists to be involved in sustainable activities that protect the natural environment of the destination.

Hauraki Gulf Marine Park was established in 2000 and was New Zealand's first national park over a sea area. It was established to protect unique environments of the gulf including some marine reserves such as Goat Island Marine Reserve and Long Bay-Okura Marine Reserve, as well as the iconic Rangitoto Island, Motutapu Island, Motuihe Island, Motuora Island, and other islands located near Auckland (DoC, 2010) (Figure 1).

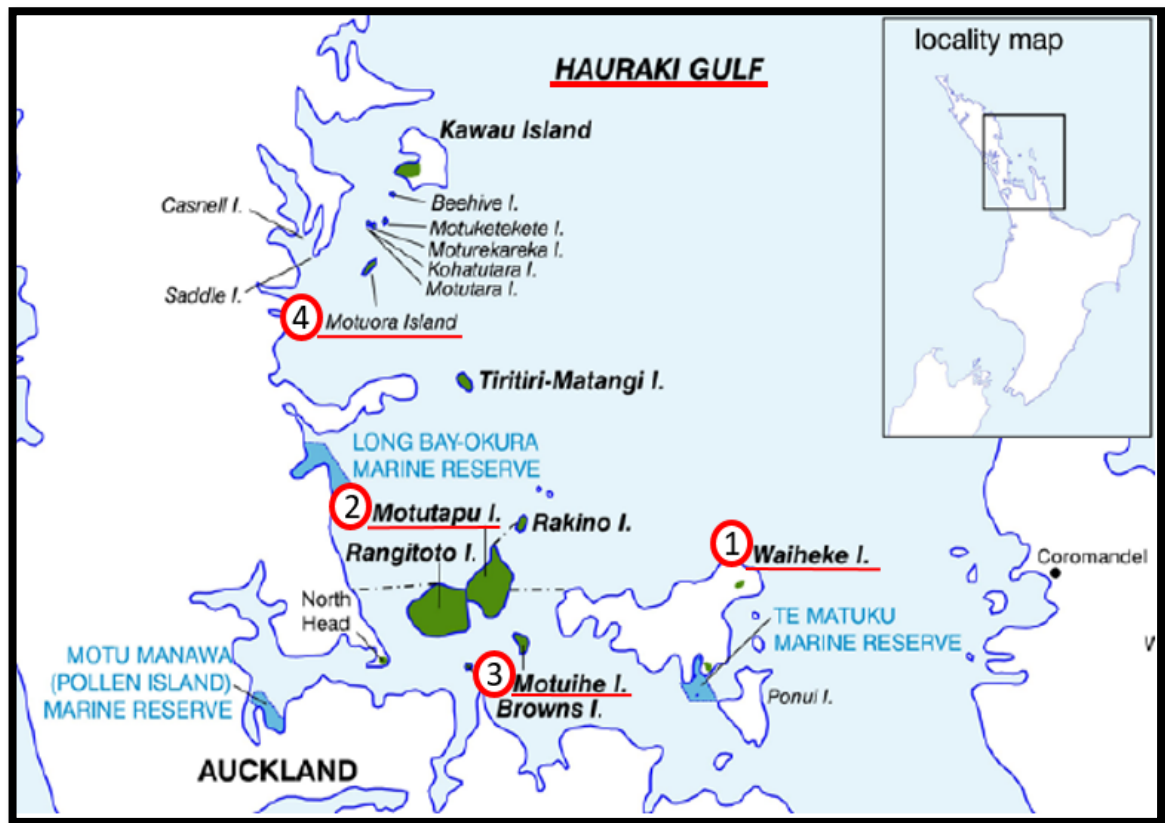


Figure 1. Map of the Hauraki Gulf in Auckland Source: Auckland Council (2016) retrieved from <http://www.aucklandcouncil.govt.nz/EN/AboutCouncil/representativesbodies/haurakiqulfforum/Documents/haurakiqulffislandsmap.pdf>

Auckland council (2016a) encourages participation in conservation volunteering at regional parks or open sanctuaries as a leisure activity including tree planting, animal monitoring, bush track maintenance, and wildlife surveying. As these activities are sometimes organised by a visitor centre of the regional park, for example Arataki visitor centre near Auckland. Visitors from other regions are also encouraged to engage in volunteering while they are visiting the regional park. Thus, eco-leisure/tourism activities are often done in conjunction with activities involving the natural environment, and are undertaken by international tourists, domestic tourists, and local day-trippers. In the case of this study, as the locations were remote islands in pristine natural environments, all of the participants needed to travel from home to volunteer.

In New Zealand's tourism industry, natural resources such as beaches, forests, and wildlife produce the most prominent tourism activities. Three-quarters of all tourists visiting New Zealand participated in wildlife-related activities, and 69 percent of tourists engaged in walking or hiking (Tourism New Zealand, 2015b). New Zealand is

often recognised as one of the best ecotourism destinations in the world (Pickey & Higham, 2005). As a central concept of ecotourism, ecotourism experiences should include at least nature-based activities, educational and learning components, and sustainability (Blamey, 1997; Fennell, 2001; Kinder, Arguello, Campbel, & Mora, 2010). For example, in New Zealand wildlife attractions such as dolphin/whale watching or visiting the blue penguin colony often include educational components and contribution opportunities for conservation; effective learning, donation of money, or volunteer activities (Higham & Carr, 2002).

Tourism New Zealand (2015a) recognises that responsibility of travellers is a key component for sustainable tourism development in New Zealand (Statistic New Zealand, 2014). New Zealand is an amazing place for volunteers if they are nature lovers. For example, Blue Voluntours offers marine volunteer tours including educational and recreational activities such as dolphin/whale watching, cleaning up the costal lines, and some tree planting in the Goat Island Marine Reserve. DoC (2016) also provide a variety of programmes for volunteering in natural settings, such as week-long programmes of track and hut maintenance at national parks and several-month-long programmes of wildlife monitoring and research at remote islands. Also International Student Volunteers (ISV) runs volunteer programmes to protect the natural environment and native wildlife in New Zealand (ISV, 2014). Sustainability of natural resources is vital for ecotourism activities in New Zealand, and environmental volunteering in ecotourism setting can be an answer to decrease environmental issues caused by visitors.

1.2 Purpose of this study

Environmental volunteering includes various elements of the related sectors of volunteerism, leisure, and ecotourism. However, discourse around environmental volunteering at eco-leisure/tourism destinations is still very limited and has not sufficiently integrated these related disciplines. As a result, stakeholders in environmental volunteering have not been able to maximise their volunteers' potential. The Hauraki Gulf is a popular eco-leisure/tourism destination and its natural environment is potentially threatened by domestic/international tourists and local residents from the large city of Auckland. One challenge of volunteer organisations is how they retain volunteers who participate regularly in conservation projects to

protect the natural environment. The study of environmental volunteering on islands in the Hauraki Gulf can assess these issues, shortages, and gaps for related stakeholders.

The purpose of this study is to identify characteristics of environmental volunteers and to gain an understanding of the totality of their experiences from multidisciplinary perspectives. Specifically, this study aims to understand the totality of their experiences by applying a theoretical model based on the Volunteer Process Model theory which includes three stages of participation; antecedent, experience, and the consequence of volunteering. This study examines specific components of antecedents, experiences, and the consequences of environmental volunteering from volunteerism, leisure, and tourism perspectives, as well as the relationships between these components.

The study aims to achieve the following objectives;

- 1) Understand the socio-demographic characteristics of environmental volunteers focussing on gender, age, education, race, and income, as well as origin (international/domestic/local) and frequency (episodic/ongoing) of volunteers,
- 2) Identify antecedents, experiences, and the consequences of environmental volunteering focussing on motivations, leisure involvement, and place attachment in order to find out specific processes of environmental volunteering,
- 3) Identify components of motivation, leisure involvement, and place attachment, and investigate how these components are affected by the origin of volunteers and frequency of volunteering in order to find out the differences of motivational and experiential attributes from leisure/tourism and volunteerism perspectives, and
- 4) Develop and examine a new theoretical model based on the VPM that identifies causes and effects of total volunteer experiences, and compare the model between episodic and ongoing volunteers.

1.3 Methodology

This study endeavours to understand the characteristics of environmental volunteers in terms of their socio-demographics and motivations, as well as to examine the

theoretical relationships between the motivations, experiences, and consequences by utilising the VPM in the eco-leisure/tourism context in Hauraki Gulf New Zealand. As the aims require the identification of motivational factors and the use of a model that contains causes and effects, the variables should be measurable independently from the researcher. Therefore, this study adopts the paradigm of positivism, which acknowledges that a phenomenon is an objective reality and therefore can be discovered, and is independent from researchers (Guba & Lincoln, 1994; Slevitch, 2011). This paradigm is suitable to explain the causes and effects of human behaviour and apply a knowledge and test model (Dwyer, Gill & Seetaram, 2012; Melkert & Vos, 2010). The positivism paradigm requires both measurable and independent data to verify and generalise the phenomena (Denzin & Lincoln, 1994; Slevitch, 2011). Therefore, a quantitative method, specifically, a survey is suitable for this study purpose and objectives.

To achieve the objectives of this study, a survey instrument was developed using three different models to identify motivation, experience and demographics. To develop the 'motivation' questions, the Volunteer Function Inventory (Clary, Snyder & Ridge, 1992) and leisure motivations (Bruyere & Rappe, 2007) were applied. To develop the 'experience' questions, the Modified Personal Involvement Inventory and place attachment items (Lee, 2011) were used. The academic work of Wilson (2000) on volunteerism was used to develop 'demographic' questions.

A survey instrument was designed to be self-administered on location. The collection of surveys was conducted mainly at eco-conservation programmes located on four islands in the Hauraki Gulf: ①Waiheke; ②Motutapu; ③Motuihe; and ④Motuora; as indicated in Figure 1. Surveys were distributed for completion during the participants' free time after volunteering, on the ferry going back to the Auckland harbour, or to be completed off site and returned by post. A total of 396 completed surveys were collected.

The Statistical Package for Social Sciences (SPSS) version 22 and SPSS Amos version 22 for structural equation model (SEM) were used to analyse the data. To understand characteristics of environmental volunteers, frequency analyses and cross-tabulation analyses were conducted on socio-demographic items. Descriptive analyses, factor

analyses, and t-tests were conducted to identify the factors of motivations, leisure involvement, place attachment, and to identify differences between episodic and ongoing volunteers, as well as domestic/international tourists and leisure volunteers. Structural equation modelling methods were used to identify the relationships between motivations, leisure involvement, and place attachment on SPSS Amos.

1.4 Research significance

The study develops a new theoretical framework by applying Volunteer Process Model (VPM) (Omoto & Snyder, 1995, 2002), Volunteer Function Inventory (VFI) (Clary, Snyder & Ridge, 1992; Clary & Snyder, 1999), and leisure involvement/place attachment relationship (Lee, 2011). It thereby integrated three different academic discourses of volunteerism, leisure, and tourism in environmental volunteering on remote islands. The results of this study identify the causes and effects of environmental volunteering, in which the total experience of environmental leisure/tourism volunteers is assessed by the VPM. The findings include factors of; motivation as an antecedent, leisure involvement as an experience, and place attachment as a consequence of environmental volunteering in Hauraki Gulf New Zealand. In addition, this study identifies motivational and experiential differences between episodic and ongoing volunteers as well as between domestic leisure volunteers and international tourist volunteers. The results of this research contribute to a better understanding and offer deeper insights into the characteristics and experiences of leisure volunteers and tourist volunteers, which enables practitioners to do more effective recruitment and better manage volunteer experiences, encouraging frequent participation in their programmes and a sense of affection to the locality.

In addition to this practical contribution for government agencies and tourism operators, the results of this study contribute to the academic discourse. One of the most significant contributions of this study is to utilise both tourism/leisure and volunteerism theories into the single setting of environmental volunteering activity on islands, which opens scholars to discuss the dimension of international/domestic (tourism/leisure) and episodic/ongoing volunteers. Specifically, the comparison of motivational differences between international and domestic volunteers as well as episodic and ongoing volunteers will open up further discussion in tourism and

volunteerism literature. Discussion regarding these differences will encourage scholars to investigate further research.

Three of the four locations in this study (Motuora Island, Motutapu Island, and Motuihe Island) have similar restoration programmes monitored by DoC based on the successful restoration programme on Tiritiri Matangi, but are in different stages of progress in their restoration. Volunteers play a pivotal role in these restoration programmes to restore, enhance, and protect the natural environment. The result of this study can be applied to understand the volunteer experiences in other eco-restoration programmes for across New Zealand.

1.5 Structure of this thesis

This thesis contains six chapters including the current introductory chapter. In Chapter two, related literature is reviewed focussing on volunteerism, leisure and tourism, which include volunteer tourism, eco-tourism, and serious leisure perspectives. Demographics, motivations, and experiences of volunteers, excursionists, and tourists are addressed. A theoretical model based on the VPM is presented, in which volunteer motivations as the antecedent, leisure involvement as the experience of volunteering, and place attachment as the consequences are addressed.

Chapter three contains methodologies, which explain how the research was conducted. This chapter addresses the research paradigm, rationale of the research paradigm, the quantitative approach, and study settings. Also, both a theoretical model and a survey instrument are developed. In addition, administration, sample size, and ethical considerations are discussed. Data analysis methods are presented to achieve the study objectives. Finally, the limitations of this study are discussed.

Chapter four presents the results and findings, divided into nine sections. In sections one to three, descriptive analysis and cross tabulation analysis of socio-demographics are performed. Section four includes a factor analysis and descriptive analysis of motivational items. Sections five and six employ descriptive analyses of leisure involvement and place attachment, as well as the factors identified in the literature review. Section seven involves a confirmatory factor analysis (CFA) of motivation, leisure involvement, and place attachment to verify these factors. Section eight

examines the theoretical model of the VPM using a structural equation modelling technique. Finally, in section nine, the conclusion of the chapter is presented.

Chapter five discusses the results and findings from the previous chapter. Results from socio-demographics are discussed in the first section. The motivations, experiences of leisure involvement, and the consequences of place attachment are discussed in sections two to four. The constructs of motivation, experience, and consequences as well as the VPM are revisited and argued in sections five and six. The final section brings together the conclusions of the chapter.

Chapter six presents the conclusions of the research and identifies ways that the findings can be applied by domestic and international tourism operators, volunteer organisations such as local environmental trusts, government organisations such as DoC, and fellow researchers in the tourism, leisure and environmental academic discourses.

Chapter Two: Literature Review

2.1 Introduction

Scholars in the academic tourism discourse assert that volunteer tourism is a new form of tourism correlated with various peripheral study areas, mainly ecotourism (Brightsmith, Stronza & Holle, 2008; Coghlan, 2006; Fennell, 2015; Gray & Campbell, 2007; McGehee, 2014; Tomazos & Butler, 2009; Wearing 2001; Weaver, 2015), serious leisure (Caissie & Halpenny, 2003; Kaminski, Arnold & Benson, 2011; Stebbins, 1996; Stebbins & Graham, 2004; Tomazos & Butler, 2012), and volunteerism (Caissie & Halpenny, 2003; Callanan & Thomas, 2005; Chen & Chen, 2011; Govender & Rogerson, 2010; Pegg, Patterson & Matsumoto, 2012), where environmental volunteering also has strong relationships. In these sectors, studies of motivations are often practiced at the initial stage of academic discourse, as motivation is regarded as the driving force of people behaviours, and is essential for marketers and organisations to understand for business growth (Pearce & Lee, 2005). There are sufficient previous studies focussing on theories, models, and frameworks to generalise and utilise motivation structure for volunteer tourism study (McGehee & Wearing, 2013b), which can be applied on environmental volunteering as well.

This chapter reviews the current literature related to the following; 1) volunteerism, 2) serious leisure, and 3) ecotourism and volunteer tourism. It discusses the definition of each activity type, demographics of participants, and motivations affecting participation. It then goes on to discuss models for studying volunteer experience, including motivation, leisure involvement and place attachment, particularly in relation to environmental volunteers.

2.2 Volunteerism

2.2.1 Definition of volunteerism.

There is no single definition of volunteerism (Wilson, 2000), and definitions are complicated by the interdisciplinary and multidimensionality of volunteerism (Hustinx, Cnaan & Handy, 2010). Wilson (2000) defined volunteering as “any activity in which time is given freely to benefit another person, group, or cause” (p. 215). However, this definition does not exclude some activities that are typically *not* considered volunteering, such as emergency helping or corporate volunteer activities. According

to Snyder and Omoto (2008), volunteerism is defined as “freely chosen helping activities that extend over time and that are often performed through organisations and on behalf of receptive causes or individuals” (p. 1). They consider volunteering to usually have six characteristics; free will, deliberation or decision-making, a certain period of time, no reward, helping others, and organised or planned activities. Similarly, Penner (2002) notes that volunteerism includes four salient attributes; longevity, plan-fullness, non-obligatory helping, and an organisational contact. Common to these definitions, is that volunteerism is an ongoing activity that helps to improve others’ well-being through participating in organisations.

These definitions reflect a traditional view of volunteerism, where volunteering occurs on a regular basis and involves on-going activities in a community organisation where volunteers reside nearby (Holmes & Smith, 2009). However, a recent trend shows that shorter and less frequent volunteering is becoming more popular (Cnaan & Handy, 2005; Smith & Holmes, 2009). While volunteering brings a lot of benefits to the community, the total amount of time devoted to volunteering has levelled off or declined in a last few decades for a number of reasons. According to Holmes and Smith (2009), there are several factors negatively affecting conventional volunteering such as an aging population, changing family and household composition, delayed financial independence of children, late retirement, and declining pensions. In addition, volunteer organisations are struggling to sustain longitudinal involvement of volunteers, showing the trend towards more ‘episodic’ rather than ongoing volunteerism (Snyder & Omoto, 2008).

Sherr (2008) accounts for this shift by defining volunteerism as “making a choice to act in recognition of a need, with an attitude of social responsibility and without concern for monetary profit” (p. 11), without limiting the definition to require ongoing activities or longevity. Cnaan and Handy (2005) create a specific definition of episodic volunteerism as ‘individuals who engage in one-time or short-term volunteer opportunities’ which are performed out of free will, under formal agencies, and without rewards (p.30). People seek and engage in episodic experiences of volunteering to fulfil their instant needs. They find that episodic volunteering has been a growing trend across the globe (Cnaan & Handy, 2005).

In a more recent study, Hobbs (2012) categorises volunteers into four types: 1) day-to-day volunteers who are regularly available for daily operations on each day or week; 2) episodic volunteers who are available only for specific occasions or purposes such as an event; 3) managerial volunteers who organise other volunteers on the daily operation; and 4) governance volunteers who are involved with a committee board where they can make decisions.

2.2.2 Socio-demographics of volunteers.

Socio-demographics are one of the important factors that affect participation in volunteering (Bussell & Forbes, 2002; Matsuba, Hart & Atkins, 2007; Omoto & Snyder, 2002). Wilson (2000) stated that age, gender, race, education achievement, household income, and work status are important elements to predict volunteers.

Wilson (2000, 2012) noted that tendency to participate in volunteering depends on the participant's life stage. Generally, people in their middle age engage in volunteering in the highest numbers, with the exception of high risk volunteering, which attracts younger people. However, the retired age group commit the greatest number of hours to volunteer activities, as more free time becomes available and people seek replacement for paid work. For example, in New Zealand, people aged 40-49 were the most active amongst volunteers in numbers in 2013, however over 65 years old contributed the most in hours (Volunteering New Zealand, 2015). Studies of environmental volunteering have found that 44 percent of participants were over 50 years old (Bruyere & Rappe, 2007), or around 70 percent were between 40 years old to 60 years old (Ryan et al., 2001).

Wilson (2012) found that levels of volunteer participation was not clearly different between male and female, however, there are differences in specific domains of volunteering. For example, coaching in sport volunteering is often dominated by male volunteers, whereas, humanitarian activities are more female-driven. In environmental volunteering, the ratio was almost even between male and female (Bruyere & Rappe, 2007; Ryan et al., 2001). Einolf (2011) concluded that women are more likely to engage in volunteering as they have more prosocial motivation. In New Zealand also, females are more likely to spend volunteer activities as male tend to engage in paid work (Volunteering New Zealand, 2015).

Race is believed to be an important factor for volunteering. For example, in the United States race is often targeted in volunteer surveys, which identify that Whites are more likely to do volunteering than African Americans (Rotolo, Wilson & Haughes, 2010). However, others argued that race or ethnicity does not significantly affect propensity to volunteer (Laurence, 2011).

Educational achievement is one of the most salient elements that affects volunteering as it perhaps encourages people to belong to more organisations and broaden one's horizons, and increase cognitive competence which leads to higher income (Wilson, 2000, 2012). In addition, as Lee and Brudeney (2010) note, the more opportunity people have to hear about volunteering in their social context, the more they participate in volunteering and the more they express themselves as a volunteer. Pho (2008) found that high school degree holders were less likely to participate in volunteering than college degree holder in the United State. According to Bruyere and Rappe (2007), volunteering enhances students' personal, social, and academic development, and therefore students highly involved in volunteering activities tend to achieve higher degrees as well as develop social skills such as leadership.

While the relationship between income and volunteering is not clear, most studies indicated that lower income groups are less likely to participate in volunteering (Wilson, 2012). For example, Pho (2008) stated that low to medium income groups tend to less than higher income groups. Smith (1994) pointed out that household income has a positive relationship with the frequency of volunteer participation. On the other hand, Matsuba et al. (2007) found that household income does not have direct effect on volunteering.

According to Einolf (2011) and Pho (2008), part-time workers are more likely to participate in volunteer activities than full-time workers as they have more free time, however unemployed are the least likely to participate. Further, those who are employed at an hourly rate are less likely to engage in volunteering than those who are paid a salary, as workers paid by the hour tend to pay attention to the time spent on no-payment activities (Wilson, 2012). Egerton and Mullan (2008) concluded that the time spent on paid work, study, and family care is negatively correlated to the time spent on volunteering.

2.2.3 Motivations of volunteers.

One of the largest areas of study regarding volunteerism is the study of volunteers' motivations, to assist organisations in recruitment and retention of volunteers (Bussell & Forbes, 2002, Ramdianee, 2014; Wilson, 2000). In a theoretical approach to volunteer motivation, scholars adopt either a two-dimensional position or a multidimensional position (Shye, 2010). The two dimensional models include, for example, the altruism-egoism dichotomy and the intrinsic-extrinsic model (Ramdianee, 2014). The altruism-egoism dichotomy contrasts the altruistic dimension of motivation – i.e. the desire to help others combined with intangible rewards, against the egoistic dimension – including the desire to promote career opportunities, skills or social networking and tangible rewards (Horton-Smith, 1981; Shye, 2010). The intrinsic-extrinsic model compares intrinsic or internal motivations such as satisfaction, enjoyment, and good feelings, with extrinsic or external motivations; such as career or networking enhancement, which are derived separately from the outcome of volunteering (Finkelstein, 2009).

One of the most well-known multidimensional approaches to the volunteer motivation is the Volunteer Function Inventory (VFI) proposed by Clary, Snyder and Ridge (1992) (Ramdianee, 2014; Wilson, 2012). The VFI takes into account a wider range of factors, including functional reasons, goals, purposes, and motives (Clary et al, 1998). The VFI creates a framework for understanding the functionality of volunteering in which participants can achieve or fulfil their purposes through volunteer acts. Clary and Snyder (1999) developed and refined the VFI into six functional motivations for participating in volunteer activities:

- 1) *Values* - to express or act on beliefs or values in helping others (altruistic motivations);
- 2) *Understanding* - to understand, learn, or gain new perspectives of things from volunteering;
- 3) *Enhancement* - to grow and develop oneself, for example by building self-esteem;
- 4) *Career* - to gain career-related experience or explore new career opportunities;
- 5) *Social* - to strengthen one's normative network or to be influenced by significant others.

- 6) *Protective* - to reduce negative feelings or escape from one's daily troubles or feelings of guilt.

A number of scholars have investigated the validity of the VFI and have found it achieves a high validity in various volunteer fields, for example, human help (Finkelstein, 2008), and events and sports (Athanasios & Newton, 2003; Eley & Kirk, 2002; Kim, Zhang & Donnaughton, 2010). Finkelstein (2008) identifies that volunteers are more likely to be affected by value motives (including altruistic motivations) at the initial stage of volunteering, however, they are driven by understanding and enhancement motives at later stages. Wilson (2012) finds that volunteers whose value motivations are stronger than other motives are more likely to retain their volunteerism.

As Mowen and Sujan (2005) state, the VFI scales are useful to identify volunteer traits and predict actual volunteering behaviour. For example, value/altruistic motives positively affect participation in volunteering, while self-enhancement has a negatively effect on participation. As these results indicated, the VFI scales have been utilised as a powerful tool to predict volunteer experience.

2.2.3.1 Motivational differences between ongoing and episodic volunteers.

The recent trend away from ongoing volunteering towards episodic volunteering is correlated with other social movements such as shifts from collectivism to individualism (Hustinx, Handy & Cnaan, 2010). Cnaan and Handy (2005) find a shift in volunteering from habitual and dedicated involvement to weaker and episodic involvement, which indicates a shift towards self-interested motivation.

Multiple studies have similarly found that episodic or occasional volunteers are more driven by motivations that can be described broadly as self-interested, while ongoing or intensive volunteers tend to be driven by values/altruism-type motivations. For example, Finkelstein (2010) demonstrates those career-oriented volunteers tend to be more episodic than those who are ongoing volunteers. Similarly, Smith et al. (2010) found that ongoing volunteers are more altruistic/value-driven with a desire to help or to learn new perspectives, while on the other hand, occasional volunteers are more career- and social/ego defensive-driven that contain C.V./career enhancement and social influence. Asah and Blahna (2012) also found that intensive volunteers have

more altruistic motives while episodic volunteers are ego-defence or ego-enhancement focused. Allison, Okun and Dutridge (2002) also found that altruistic purpose was a positive predictor for frequency of volunteering, however, social influence was negatively correlated with frequency. In addition, episodic volunteers put more importance on social aspects of volunteering, specifically on enjoyment, religious, and team building purposes. However, it is worth noting as Hyde, Dunn, Bax and Chambers (2016) mention, the studies of episodic volunteers are very limited especially in empirical approach.

2.2.3.2 *Motivations of environmental volunteers.*

As Bramston, Pretty and Zmmit (2011) note, the motivations of environmental volunteers may differ from other volunteers due to the different nature of work which often has visible outcomes and involves learning. Environmental volunteering enhances volunteers' mental health and physical fitness, as shown in a twenty-year research study in the United States (Pillemer et al., 2010); it is therefore possible that health motivations may also be relevant to environmental volunteering.

Ryan et al. (2001) adopt a functional motivation approach for regular volunteers in environmental stewardship programmes and find six motivational factors: *helping the environment; learning; project organisation; social reflection; and individual items*. The *helping the environment* factor and the *learning* factor were the most important motivations for environmental volunteers. Similarly, Bruyere and Rappe (2007) identify seven factors: *helping the environment; career; user; leaning; project organisation; social; and value and esteem*. They also found that the *helping the environment* factor is the most important for the volunteers, followed by *user*, which are the motives as visitors or users of the natural resource.

Bramston et al. (2011) identified three motivational factors of environmental volunteers: *developing a sense of belonging; caretaking of the environment; and expanding personal learning*. Moreover, active volunteers have significantly higher motivations than non-active volunteers in terms of *caretaking the environment* and *expanding personal learning*. Measham and Barnett (2008) found another motivational factor of a desire to care for a particular place where volunteers feel ownership. Thus, environmental volunteers have specific motivations, which includes helping the environment as the most important factor as well as learning components.

2.3 Serious leisure

Volunteering has been regarded as a form of leisure in terms of its opportunities of self-determination, recreation, and personal growth by helping others (Twynam et al., 2002). Stebbins and Graham (2004) noted that some volunteer activities can be one form of serious leisure in terms of being a freely chosen activity, experience, and intrinsically rewarding through acquisition of specific knowledge and skills. Motivations for participation in serious leisure activities mainly focus on self-interest and leisure career development which contribute to the individual's well-being rather than altruistic reasons (Stebbins, 1982). Volunteering in serious leisure is a part of a pathway (career) to achieve participants' goals. It also requires regular participation and considerable commitment, and in turn often provides development of special skills, knowledge, or self-enhancement including confidence and identity through leisure activities (Tomazos & Butler, 2012). For example, hobbyist gardeners devoting their time to maintain a flower bed of a church or town square gain the sense of achievement and community; while hikers who participated in track maintenance in their leisure time did so as a social activity of hiking club (Elkington & Stebbins, 2014).

As some scholars mentioned, the contemporary form of serious leisure is becoming a short term, one shot, or occasional based, namely project based leisure (Stebbins, 2005, 2008; Tomazos & Butler, 2012). This type of leisure also requires a certain amount of preparation, planning, effort, skill, or knowledge to achieve participants' goals. For example, a Do-it-yourself project of fencing or gardening, tourism to visit a specific region such as a back packing or canoe trip, as well as volunteering at conventions, sport events, art festivals, and natural environment restoration programmes are categorised into this type of leisure activities (Stebbins, 2008). As Stebbins (2005) noted, while the serious leisure framework can apply to project based leisure, a main difference between them exists in a sense of career. In other words, serious leisure requires considerable effort and perseverance, and in turn, gives skills and knowledge to achieve the leisure career, while project based leisure does not generate the sense of career. As Tomazos and Butler (2012) noted, volunteers at a tourism destination is a perfect example within the project-based leisure category. These volunteers, defined as leisure volunteers by Twynam et al. (2002), give their free time and effort to mainly have a leisure experience rather than pursue their leisure

career. The concept of project based leisure resonates with episodic volunteering (Holmes, 2014).

2.3.1 Motivations to leisure and serious leisure.

Prior to the concept of serious leisure, studies of leisure motivation were the central role of leisure study especially in the 1980s (Chen & Pang, 2012). Tinsley and Kass (1978) summarised leisure and recreation needs, and found eight categories of needs: self-expression; companionship; power; compensation; security; service; intellectual estheticism; and solitude. Also Tinsley and Eldredge (1995) found that 11 motivations were abstracted from 82 leisure activities including agency (exertion and challenge), novelty, belongingness, service (conscientiousness and affiliation), sensual enjoyment (hedonism), cognitive stimulation, self-expression, creativity, competition, vicarious competition, and relaxation. Thus, motivations of volunteering in leisure were recognised as service motives such as conscientiousness or affiliation.

According to Manfredo, Driver and Tarrant (1996), leisure motivations can be categorised into four groups: (1) intellectual motives which included mental activities such as learning, exploring, discovering, thought or imaging; (2) social reason; (3) competence/mastery motives to achieve, master, challenge and compete; and (4) stimulus avoidance which are motives to escape and get away from over-stimulating situation. More recently, Dillard and Bates (2011) also categorised leisure motivations into four similar groups: escape; enhancing relationships; personal mastery; and winning.

According to Gould, Moore, McGuire and Stebbins (2008), participants of serious leisure have six qualities and characteristics: (1) perseverance; (2) leisure career; (3) significant effort; (4) individual benefits; (5) unique ethos of the group; and (6) identification with pursuit in the group. Participants of serious leisure have perseverance to negate embarrassment, anxiety, injury, or other strains as well as the pursuit of career stages of turning point, achievement, or involvement (Stebbins, 1982). Leisure activities include mastery of ongoing activity development. This includes stages of achievement or involvement, and a turning point, which “reflect a continuum of changing patterns related to skills, knowledge, and abilities” (Gould et al., 2008, p. 49). Also participants present significant “effort based on special knowledge, training, or skill” (Stebbins, 1982. p. 256). Tsaur and Ling (2008) recognise that birdwatchers in

Taiwan also have the six qualities as serious leisure and the individual benefits such as self-actualisation or self-expression is the most important for them. In addition, Pi et al. (2014) confirm the six qualities of serious leisure and find that the leisure career and individual benefits are the most important characteristics for the volunteers of a flora exposition in Taiwan.

Elkington and Stebbins (2014) state that serious leisure pursuits long-lasting benefits such as self-actualisation, self-enrichment, self-expression, and social interaction as consequences of the participation. Participants of serious leisure are often affected by others within the same interest group sharing beliefs, values, and norms. In addition, participants' pursuits play an important role of representing their identity by, for instance, speaking proudly and excitedly in their conversation (Stebbins, 1982; 2004).

2.4 Tourism

Tourism is one of the world's largest industries, associated with many of the primary industries and is intricately interwoven into the fabric of life economically, socio-culturally, and environmentally (Fennell, 2014). Tourism can be described as the interrelated system that includes tourist and associated services that are provided and utilised (facilities, attractions, transportation, and accommodations). According to the World Tourism Organisation (2011), tourism is defined as 'the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited' (p.1).

Since the 1990s, there has been a shifting trend of tourism form to reduce negative impacts from mass tourism (Wearing, 2001). This has resulted in alternative types of tourism to form. Sustainable tourism is a growing niche market and includes the specialised areas of ecotourism and volunteer tourism. Sustainable tourism aims to maximise the positive impact and minimise the negative impact of tourism activities (Seba, 2012). One of the main focuses of ecotourism is the relationship between tourism and the natural environment (Brandon, 1996; Buckley, 1994). Also, volunteer tourism is recognised as a form of travelling that contributes to the environment and the social development of host communities, as well as catering to tourist preferences

to pursue a more memorable experience with host communities (Benson, 2010; Callana & Thomas, 2005; Knollenberg, McGehee, Beley & Clemmons, 2014).

2.4.1 Ecotourism and definition of ecotourism.

Ecotourism can contribute to the natural environment by means of financial benefits and users' attitude changes which provide sustainability for the tourism site. Blamey (1997) reviewed definitions of ecotourism, and summarised three components of ecotourism: (1) nature-based activity; (2) environmentally educated; and (3) sustainably managed. Fennell (2001) scrutinised 85 definitions of ecotourism using content analysis, and found that the most cited terms include: (1) settings of activities such as natural area; (2) conservation; (3) culture; (4) benefits to local; and (5) education. Donohoe and Needham (2006) and Fennell (2015) summarise that ecotourism has six components in both the concept and activity: 1) preservation; 2) education; 3) sustainability; 4) distribution of benefits; 5) ethics and responsibility; and 6) nature-based activity. These definitions show that ecotourism contain conservation and sustainability in its core concept. Further, Nowaczek and Smale (2010) add a specialisation dimension referring to the extent of travel experience, independence, dedication, and expertise in terms of own skills and preparation in the definition of ecotourism. This indicates that some ecotourists pursue genuine experiences which lead them to be an expert.

Activities in ecotourism are often distinguished as a spectrum from *hard* to *soft* dimensions (Fennell, 2002a, 2015; Orams, 2001; Weaver, 2005). For example, *soft* ecotourism is described as a relatively short trip with large number of people, physically passive involvement in activities, and a shallow interaction with nature. On the other hand, *hard* ecotourism refers to a long trip with small number of people for one or more specific purposes, requiring physically active involvement, and deep interaction with nature (Weaver, 2005). Also, Orams (2001) proposed another continuum of ecotourism activity based on the extent to which the activity is responsible and desirable to the host environment; exploitative, passive, and active. The exploitative dimension relates to activities resulting in damage on the host environment, while the active dimension relates to activities that contribute positive outcomes for the host environment. For example, a restoration activity supported by

visitors to Tiritiri Matangi Island in New Zealand falls towards the positive/active end of the spectrum (Orams, 2001).

2.4.2 Demographics of ecotourists.

Correlated with ecotourism activities, ecotourists are also categorised in *hard* and *soft/casual* dimensions (Lindberg, 1991; Fennell, 2002a). For example, the *hard-core* nature tourists are those who have scientific or educational purpose or environmental restoration purpose (Lindberg, 1991). In addition, the *hard-core* ecotourists are specialised and dedicated, and do not rely on a built or modified environment (Fennell, 2002a).

The socio-demographics of ecotourists are often studied (Fennell, 2015; Sharpley 2006). While ecotourists are not homogeneous depending on, for example destinations and activities, there are some common tendencies in terms of age, gender, education level, and income. Nowaczek and Smale (2009) find that in the case of Peru, 40% of ecotourists are over 50 years old, around 60% are female, 47% of ecotourists hold a post-graduate degree, and 40% of participants are categorised in over \$US 100,000 household income bracket. Fennell (2015) also recognises that the market of ecotourism has changed from being male-dominant to female-dominant, and from young tourists to elder tourists.

2.4.3 Motivations of tourists/ecotourists.

Since mass tourism emerged in the 1970s, the study of tourist motivation has been substantially explored. For instance, Dann (1977) identified push and pull factors of tourist motivation. Push factors are psychological needs for travelling such as escapism, and ego-enhancement/social recognition. In contrast, pull factors are derived from attractiveness of a destination, for example, natural environment, and cultural and historical resources (Dann, 1977). Similarly, Crompton (1979) conducted interviews for tourists and identified several internal motivational factors: escaping from normal life; exploration and evaluation of self; relaxation; prestige; enhancement of kinship; and social interaction; as well as two external factors: novelty and learning. In addition, Iso-Ahola (1981, 1982) proposed an escaping-seeking dimension as well as a personal-interpersonal dimension of tourist motivation. For example, personal escaping motivations include personal troubles and problems, while interpersonal escaping is from co-workers, friends, and family members. Personal seeking, on the

other hand, is related personal rewards such as learning culture, ego-enhancement, or relaxation. Interpersonal seeking is, for instance, socialisation with friends or family members. As Ryan and Glendon (1998) pointed out, these tourist motivations closely echo leisure motivations. Further, Pearce (1993) developed a motivational theory based on Maslow's (1970) hierarchy of needs theory, the Travel Career Ladder, which accounts for that tourist motivation can be accumulated on previous experience and changed depending on the previous experience. That is, tourists who have experienced ordinary tourism experiences will be motivated to seek other types of experiences, for instance host-site involvement and nature-related activities (Pearce & Lee, 2005). As such, tourist motivation has been considerably investigated in theories and practices.

Scholars also investigate the motivational characteristics of the ecotourist. Wight (2001) summarises the motivational difference between ecotourists and mass tourists specifically in terms of the preference of remote wilderness area, learning about nature and wildlife, learning about the local culture, community benefits, and physical challenges. Luo and Deng (2008) also identify four motivational factors of ecotourists: (1) novelty and self-development representing experiencing new things, excitement, meeting new people, and skill development; (2) return to nature representing scenery, tranquillity, and proximity to nature; (3) knowledge and fitness representing gaining new knowledge and keeping fitness level; and (4) escape representing being away from daily life, relaxation, and enhancing family relationships. They find that ecotourists who have concerns about nature tend to be motivated by the factors of return to nature, knowledge and fitness, and escape, whereas ecotourists who think humans overcome nature tend to be motivated by novelty and self-development (Luo & Deng, 2008). According to Fennell (2002b), the *hard core* ecotourists who are highly motivated by being in the peace and tranquillity of and learning about the natural environment tend to engage in sustainable activities to leave a destination in better condition, such as donating extra money for the national park, and picking up rubbish or participating in volunteer work. Fennell (2015) states that so-called dark green ecotourists or volunteer ecotourists have a specific motivation to be more involved, for example helping wildlife research or engaging in nature restoration activities within ecotourism settings, as well as relaxing and having fun. These ecotourists often have a

strong sense of responsibility of consumption behaviour and values including altruistic motives (Sharpley, 2006).

In ecotourism settings, *soft/casual* ecotourists tend to be motivated by novelty and self-development and participate in consumptive activities. On the other hand, *hard/dark green* ecotourists are often motivated by being close to nature, gaining knowledge and tend to participate in more sustainable environmental activities.

2.4.4 Volunteer tourism.

International volunteering or missionaries were asserted as one of the original forms of volunteer tourism (Wearing, 2001). However, with the growth of volunteer tourism, a number of academic studies have been undertaken notably just in the last decade (Wearing & McGehee, 2013b). One of the well-cited definitions of volunteer tourism is advocated by Wearing (2001), who defines volunteer tourists as:

those tourists, who for various reasons, volunteer in an organised way to undertake holidays that might involve aiding or alleviating the material poverty of some groups in society, the restoration of certain environments or research into aspects of society or environment. (p.1).

With this definition, volunteer tourism experiences are limited within the contexts of holidays and vacations (Lyons & Wearing, 2012). As McGehee (2014) state, the definition is commonly accepted in volunteer tourism literature, however mostly in the international settings (e.g. Barbieri, Santos & Katsube, 2012; Benson & Seibert, 2009; Brown, 2005; Callanan & Thomas, 2005; Conran, 2011; Gray & Campbell, 2007; Stoddart & Rogerson, 2004; Tomazos & Butler, 2009; Tomazos & Cooper, 2012; Zahra & McIntosh, 2007).

McGehee and Nantos (2005) defined volunteer tourism from the perspectives of 'time' and 'place' as "utilising discretionary time and income to go out of the regular sphere of activity to assist others in need" (p.760). This definition is suitable for domestic volunteer tourists and leisure volunteers as it includes shorter time concept of 'discretionary time' rather than 'holiday' and clear concept of place 'out of the regular sphere'.

Scholars in the academic tourism discourse assert volunteer tourism is a new form of tourism correlated with various peripheral study area, mainly ecotourism (Brightsmith, Stronza & Holle, 2008; Coghlan, 2006; Fennell, 2015; Gray & Campbell, 2007; McGehee, 2014; Tomazos & Butler, 2009; Wearing 2001, Wearing & McGehee, 2013a ; Weaver, 2015), serious leisure (Caissie & Halpenny, 2003; Kaminski, Arnold & Benson, 2011; Stebbins, 1996; Stebbins & Graham, 2004; Tomazos & Butler, 2012), and volunteerism (Caissie & Halpenny, 2003; Chen & Chen, 2011; Callanan & Thomas, 2005; Govender & Rogerson, 2010; Pegg, Patterson & Matsumoto, 2012). In these sectors, studies of socio-demographics and motivations are often practiced at the initial stage of academic discourse, as these are regarded as the driving force of people behaviours and are essential for marketers and organisations to understand for business growth (Pearce, 2005).

2.4.5 Demographics and typologies of volunteer tourists.

A number of studies have been conducted to identify characteristics of volunteer tourists and classify them in terms of socio-demographics and motivational traits (Andereck et al., 2012; Brown, 2005; Coghlan & Fennell, 2009; Kim, Zhang & Donnaughton, 2010; Tomazos & Butler, 2010). Coghlan (2006) identifies that the main market of the environmental volunteering can be separate into two categories based on socio-demographic traits; episodic participation of the younger generation, and frequent participation of the older generation. In the case of Grimm and Needham (2012), international volunteer tourists who participated in environmental volunteering in Ecuador were predominantly under 25 years of age and female. Similarly, international volunteer tourism has been found to be dominated by young people in a gap year (Callanan & Thomas, 2005).

With regard to the motivational typology of volunteer tourists, Callanan and Thomas (2005) propose three types of volunteer tourists; *shallow*, *intermediate*, and *deep* volunteer tourists based on the type of volunteer project and the duration. The *shallow* volunteer tourists tend to participate in relatively short-term projects requiring no skills and no qualifications. Therefore, they tend to be young people in a gap year. Their focuses are often on self-development, learning new skills, and enhancing their academic credit or curriculum vitae (C.V.). The *shallow* volunteers usually travel with a large number of people in a group. On the other hand, the *deep*

volunteer tourists have firstly altruistic purposes such as intention to give something back to a community, and secondly self-development motivation. They normally engage in relatively long-term projects requiring special skills and qualifications. Therefore, they tend to be older or mature people with higher education. Their contributions to the community will generally be more effective and efficient for local needs (Callanan & Thomas, 2005). Coghlan and Fennell (2009) advocate the *self-interest* and *altruism* continuum based on volunteer tourist motivations from literature reviews. They identify that volunteer tourists do have both altruistic purposes and self-interested purposes for doing good. They also find that although volunteer tourists have both altruistic and self-interested motivation, volunteer tourists are more self-interest driven, reflecting on the benefits they gain. Coghlan and Fennell (2009) state that this phenomenon might show that volunteer tourism is more closely derived from the hedonistic pursuit of tourists in leisure contexts rather than altruistic pursuit of volunteers. Further, McGehee, Lee and Clemmons (as cited in Wearing & McGehee, 2013b) investigate the relationship between socio-demographics and motivations of potential volunteer tourists, and proposed the *vanguards-pragmatists-questers* spectrum. The *vanguards* are relatively younger volunteers who are interested in acquiring and learning new skills, professional development, C.V. enhancement, and hedonistic experiences such as adventure and meeting new people. The *pragmatists* are middle-aged volunteers who are more interested in having human interaction with local people. Family bonding and child education are also important motivators of participating in volunteering for this age group. The *questers* are the oldest volunteer group who are more altruistic than other types of volunteer tourists. Andereck et al., (2012) identify five clusters of volunteer tourists focussing on pre-trip expectations of volunteer activities gathered through an on-line survey. The group with least expectations is the *unadventurous* volunteer group who do not want to interact with local people but prefer to have a connection with the natural environment, wildlife, and cultural-centred activities. In contrast, *humanists* tend to have the highest motivation for direct interaction with local people such as by caring for children or sick people. The other clusters are categorised mainly by the extent to which volunteers prefer interaction with other volunteers or are interested in community involvement (Andereck et al, 2012).

A recent study of potential volunteer tourists revealed that volunteer tourists can be classified into three types based on their motivations; volunteers, voluntourists, and tourists (Knollenberg et al., 2014). Volunteers have high altruistic motivations however low motivations of cultural experience, self-development, socialising, and escape purposes. Voluntourists indicate high motivations for all factors. On the other hand, tourists show high escaping motives.

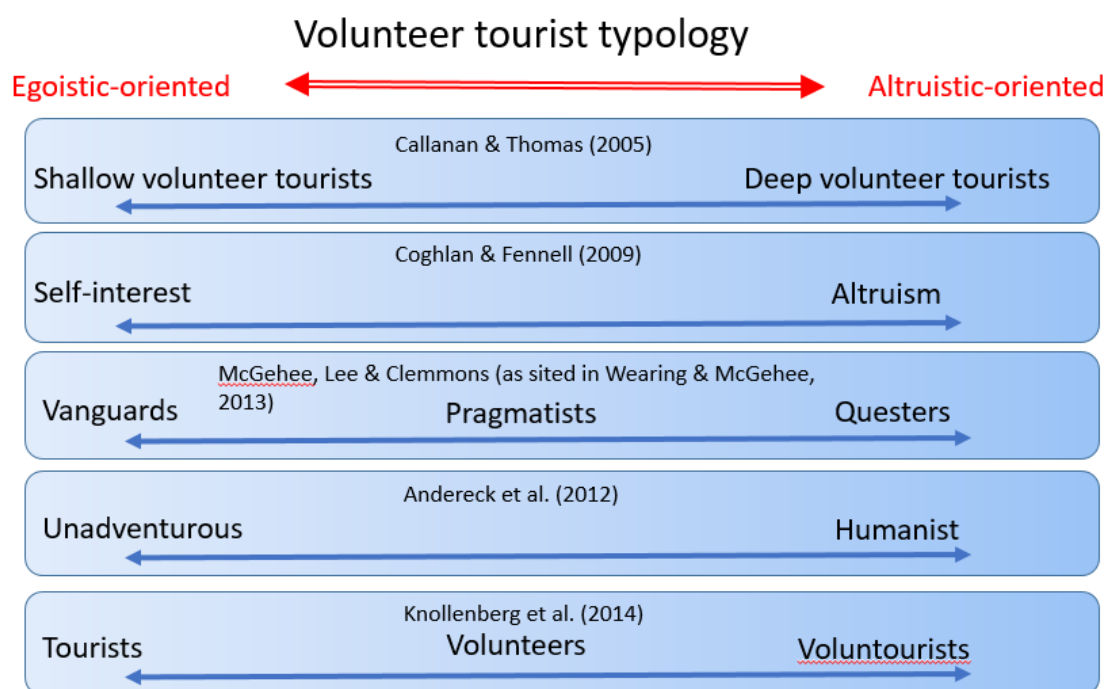


Figure 2 Typology of volunteer tourist (Adapted by author: Source from Andereck et al., 2012; Callanan & Thomas, 2005; Coghlan & Fennell, 2009; Knollenberg et al., 2014; McGehee, 2013).

In summary, these findings suggest that the *shallow*, *self-interested*, *gapper* and *unadventurous* volunteers tend to be interested in self-development or self-enhancement and are relatively young. On the other hand, the *deep*, *altruism* and *humanists* prefer direct interaction with the local people and host community, are more oriented to help people or nature in the destination, and are comparatively older (Figure 2). However, these studies were based on literature reviews or potential volunteer tourists, and are theoretical frameworks. Also these studies were focused on international volunteer tourists rather than domestic. In addition, the majority of the studies adopt a qualitative approach, and studies with a quantitative approach such as an on-site survey are scarce.

2.4.6 Motivations of volunteer tourists.

As Wearing, Deville and Lyons (2008) state, motivations of volunteer tourist differ from that of main stream tourism as the activity includes both volunteering and leisure component, which provide tourists more meaningful experiences. A number of scholars note that the main motivational difference between volunteer tourism and mainstream tourism is that altruistic motivations such as intention of helping others or giving something back to the community are included in their travel motivations (Callanan & Thomas, 2005; Sin, Oakes & Mostafanezhad, 2015; Wearing 2001; Wearing & McGehee, 2013b). According to Brown (2005), motivations of international volunteer tourists are cultural immersion in the host community; seeking different experience from mass tourism; seeking camaraderie and education for children; and the altruistic opportunity of giving something back to the community. Similarly, Lo and Lee (2011) find five motivational factors of international volunteer tourists from Hong Kong: cultural immersion; interaction with locals; family bonding and education; religious involvement; escapism; and a desire to help or give something back to the community. In addition to altruistic motivations, Wearing (2001) focuses on self-interested motivations such as seeking adventure; personal growth; learning; and professional development as important motivators of volunteer tourists. Chen and Chen (2011) summarise that motivations of international volunteer tourists can be categorised into three elements: personal motivation; interpersonal motivation; and others. Personal motivations contain traveling components such as seeking authentic experiences, relaxation, adventure, and challenge, as well as personal growth and professional/career development. Interpersonal motivations are altruistic purpose including care for others or a desire to give back, social interaction with other tourists and local people, cultural immersion, and friends and family bonding. In addition, the mission or vision of the volunteer organisation can be one of the motivators, for example in religious mission trips. According to Pan (2012), motivations of international volunteer tourists from Taiwan can also be classified into pull and push factors. For example, the expectation of the challenge of volunteering, interaction with local people, and learning about a culture are categorised into pull factors. Push factors include escapism, relaxation, self-exploration, making new friends, and a desire to give back. Pan (2012) also categorises recommendations from others as a pull factor. Sin (2010) indicates that international volunteers from Singapore focus on 'self'

motivations such as self-development, self-expression, or self-actualisation rather than motivations involving 'others' including helping others or socialising with others.

These motivation studies of volunteer tourists have focused on international tourists, case studies, and qualitative research such as individual interviews or a focus group (Broad, 2003; Brown, 2005; Chen & Chen, 2011; Grimm & Needham, 2012; McIntosh & Zahra, 2007, 2008; Pegg, Patterson & Matsumoto, 2012; Sin, 2010). Therefore, as Grimm and Needham (2012) state, the study of volunteer tourist motivation needs to be further investigated in terms of domestic volunteer tourists, and generalised; and more studies undertaken with quantitative approach.

2.5 Experiences of environmental volunteers

2.5.1 Volunteer Process Model (VPM).

The study of volunteerism emerged in the mid 1970's in developed countries especially England and the United States, focussing on definitions, theories, and demographic data of voluntary activities (Wilson, 2000; 2012). Studies of volunteerism have become more diverse, including studies of the personal impact of volunteering, especially psychological well-being and physical benefits; social and political benefits such as citizen participation or community service; and volunteer motivations driven by the importance of recruitment and retention of volunteers (Duguid, 2013). These studies acknowledge various positive impacts on volunteers, for example, enhancement of life satisfaction, self-esteem, mental and physical health, education, and mortality (Wilson, 2000). Also volunteering has a positive impact on the community and government in terms of reducing the crime rate and increasing voter turn-out in elections (Lockstone-Binney, Holmes, Smith & Baum, 2010). Volunteering as a youth tends to reduce the likelihood of delinquent behaviours such as alcohol or drug abuse, and positively affect future income. In addition, children whose parents had volunteered tend to be more generous when they grow up (Snyder & Omoto, 2008), showing that these positive impacts can pass through generations (Wilson, 2000). Because of these social benefits, the primary purpose of studies of volunteerism has tended to increase the participation and retention of volunteers.

As Wilson (2012) states, scholars' work in volunteerism has substantially spread over interdisciplinary studies. For example, psychological theories were applied to account

for participants' motivations (e.g. Clary et al., 1998; Clary & Snyder, 1999; Caissie & Halpenny, 2003), personality traits (e.g. Okun, Pugliese & Rook, 2007; Omoto, Snyder & Hackett, 2010), identity (e.g. Matsuba et al., 2007), satisfaction (Davis, Hall & Meyer, 2003; Finkelstein, 2008), and intention of retention (Barraza, 2011). Omoto and Snyder (2002) investigated the dynamics of volunteer life in an organisation and proposed the Volunteer Process Model (VPM). The VPM categorises the total experience of volunteering into three stages; antecedents of volunteering, experiences while volunteering, and consequences after volunteering. In this model, the consequences of volunteering such as attitude change, knowledge gain, organisational retention, and relationships developed are explained by actual volunteer experiences which also affect the volunteer's propositions before volunteering (Snyder & Omoto, 2008). This model is widely used in volunteerism literature (Davila, 2009; Davis et al., 2003; Finkelstein, 2008; Penner, Dovidio, Piliavin & Schroeder, 2005).

The antecedents of volunteering commonly include types of motivation, expectations, and proposition such as; personality attributes, socio-demographics, and life stage. The experiences of volunteerism refer to "experiences that may promote or deter continuing involvement" (Davila, 2009. P. 182). This stage also includes the quantity and quality of volunteer service with an organisation, choice of volunteer roles, volunteer performance, relationships with other volunteers and organisations, and satisfaction (Marta & Pozzi, 2008; Omoto & Snyder, 2002). Further, as Snyder and Omoto (2008) state, this stage "pays particular attention to the behavioural patterns and relationship dynamics that facilitate continued service of volunteers" (p. 8), including factors that make for a more pleasant and rewarding experience.

The consequences of volunteering include the longitudinal impact on volunteers in both psychological and behavioural spheres, such as attitude change, length of service participation, and commitment to organisation and volunteering. Finkelstein (2008) attempted to identify the relationships between motivations (antecedent), satisfaction (experience), and service duration, finding that the service duration was slightly predicted by satisfaction and motivations. However, as Davila (2009) mentions, the VPM has mainly been used in socio-health-related volunteering such as volunteers for AIDS. Davila (2009) applied the VPM to environmental volunteers and found different results from other humanitarian volunteers. The study indicated that in the case of

environmental volunteer retention in the volunteer organisations was not successfully predicted by satisfaction from the volunteer motivations and experiences, due to different research instrument and shorter engagement to a volunteer organisation. Davila's (2009) study was based on volunteerism focussing on satisfaction and retention in the volunteer organisation. However, the experiences in environmental volunteering include not only volunteerism elements but leisure and tourism experiences as discussed above. Therefore, these factors need to be included in experience and the consequences of environmental volunteering.

2.5.2 Antecedent: Motivations.

According to Wilson (2012), personal traits and motives have been widely studied as antecedents at the first stage of the process model. For example, socio-demographic conditions are influential to participation in volunteering (Bussell & Forbes, 2002; Cnaan & Handy, 2005; Wilson, 2000, 2012). According to Holmes and Smith (2009), age/life stage, gender, education level, income level, living area, and ethnicity are related to participation in volunteering. For instance, those who are working age, female, with higher education and income, living in a rural area, and in the same ethnicity as the dominant ethnic group are more likely to engage volunteering (Holmes & Smith, 2009). Wilson (2012) emphasises that higher education is the most prominent indicator of participation in volunteering as highly educated people tend to gain more income, belong to various social group, and broaden their horizons.

Motivation studies of volunteerism reveals a variety of motivations that lead people to engage in volunteering and involvement including affirmation values, self-development, social connection, and skill acquisition (Clary et al., 1992; Finkelstein, 2009). Snyder and Omoto (2008) emphasised that these motivations are important to guide or direct people's pursuit especially when it comes to the initial involvement in volunteering.

2.5.3 Experience: Leisure involvement

The concept of involvement was often discussed in psychology and marketing sectors, where involvement was regarded as one of the important factors to predict consumer behaviours (Laurent & Kapferer, 1985). Involvement is an important concept as it potentially influences people's beliefs or attitudes toward a product to induce actual behaviour (Arora, 1985). The origin of leisure involvement is to identify the consumer

behaviour based on the expectancy-value model, which assumes that human actions are driven by motivations to achieve specific outcomes. According to Havitz and Dimanche (1997), leisure involvement is defined as “an unobservable state of motivations, arousal or interest toward a recreational activity or associated product” (p. 246). As Josiam, Smeaton and Clements (1999) noted, involvement is a central notion of leisure behaviours and experiences as the level of involvement affects the process of decision-making in relation to travel or leisure behaviour. The basic assumption of leisure involvement underpins on commitment to freely chosen activities during the free time (Havitz & Dimanche, 1997). Therefore, involvement studies are widely used in leisure and tourism contexts where tourists act to fulfil their psychological requirements (Lu & Schuett, 2014).

Accordingly, scholars recognise that studies of involvement attempt to understand both the psychological states of motivations (the antecedents) and actual behaviour (the consequences) in recreational settings (Havitz & Dimanche, 1990; Kyle et al., 2006). For example, Iwasaki and Havitz (2004) found that motivated and skilled recreationists tend to show high leisure involvement, and the more highly involved recreationists display the higher loyalty behaviours such as joining a club or frequent participation.

Laurent and Kapferer (1985) and Zaichkowsky (1985) identified that frequency of participation or purchase has a strong relationship with level of involvement. Also, in a voluntary sport organisation, the length of devoted hours, the tendency of taking responsibilities, and the amount of actual volunteer work are positively related to the level of involvement (Ringuet-Riot, Cuskelly, Auld & Zakus, 2014). These studies focus on the relationship between leisure involvement and the extensiveness of behaviour.

Stebbins (1982) found that leisure involvement has a strong relationship with serious leisure, as serious leisure participants tend to dedicate more time or money to achieve their personal goals of gaining knowledge or skills. Cheng and Tsaur (2011) also found that leisure involvement is strongly affected by the characteristics of serious leisure participants, as they “dedicate more time and economic commitment to explore knowledge and techniques in the activity” (p. 64). In addition, Huang, Tsaur, Lin and Lien (2014) found that volunteer interpreters indicate high leisure involvement as well as strong characteristics of serious leisure participants.

2.5.3.1 Measurement of leisure involvement.

Scholars also have investigated the measurement of involvement. A traditional measurement of involvement was the extensiveness of behaviour in terms of time or money (e.g. Beatty & Smith, 1987), as well as a single item scale, for example, the degree to which buying a product was important to the purchaser (Traylor, 1981). However, involvement cannot be scaled only by behavioural extensiveness. Laurent and Kapferen (1985) and Zaichkowsky (1985) subsequently developed multi-items scales. Zaichkowsky (1985) proposed the Personal Involvement Inventory (PII), which originally included a single dimension of twenty items, but was later adapted as multi-dimensional scale. On the other hand, Laurent and Kapferen (1985) acknowledged multi-dimensional scales of the Consumer Involvement Profiles (CIP), including the importance of the product, pleasure in using the product, the symbolic value of the product, and risks involved in purchasing or not purchasing the product. McQuarrie and Munson (1987) modified the PII to multi-dimensional scales in the Modified Personal Involvement Inventory (MPII), which contains two dimensions: attitudinal involvement and arousal involvement. Attitudinal involvement includes the benefits, usefulness, or importance of a product, while arousal involvement is derived from affective sense such as interest or excitement in the product (McQuarrie & Munson, 1987). Since then, it has been widely accepted that leisure involvement also includes multi-dimensional structures (Chen & Tsaur, 2012; Iwasaki & Havitz, 2004; Kyle, Graefe, Manning & Bacon, 2003; McIntyre & Pigram, 1992).

McIntyre (1989), and McIntyre and Pigram (1992) developed three dimensions of leisure involvement based on the MPII, containing attraction, centrality, and self-expression. The attraction dimension refers to the perceived importance including enjoyment, pleasure and interest derived from participation in the activity. The attraction dimension reflects the psychological benefit from the participation (Iwasaki & Havitz, 2004). The attraction dimension is often the first component of leisure involvement (Havitz & Dimanche, 1997). The centrality dimension contains items to rate the extent to which the activity dominates or affects one's life and social networks. The self-expression dimension consists of items that explain the degree of recreationists' self-identification or feeling of freedom from normal life. Some other researchers utilise MPII and found similar results (Chen, Hung & Chen, 2015; Chen, Li &

Chen, 2013; Gross & Brown, 2008). As Kyle et al. (2006) note, the attraction dimension is strongly affected by environment where activities provide entertainment and excitement. The centrality dimension is affected by socialisation and significant others such as family members. The self-expression dimension is the representation of the self that participants like to show others through the activities. According to Havitz and Dimanche (1997), scholars often argue that the attraction dimension represent a product level, whereas the centrality and self-expression dimensions underpin a brand level of involvement. Therefore, the leisure involvement measurement can indicate which levels of involvement are more important for the consumers.

Another multi-dimensional measurement is the Consumer Involvement Profiles (PIC), which includes more dimensions than MPPII (Gursoy & Gavcar, 2003). The PIC includes five facets: the importance of the product; pleasure of hedonic rewards; sign or symbolic value; risks of consequence; and probability of miss-purchase (Dimanche, Havitz & Howard, 1991; Iwasaki & Havitz, 2004) (Table 2). The PIC is often used in adventure tourism or serious leisure settings (e.g. Havitz, Dimanche & Howard, 1993; Ding & Schuett, 2013). For example, Prebensen, Woo, Chen and Uysal (2013) identified these five dimensions in participants of 100-mile ultra-marathons.

Table 2: Leisure involvement inventory

Inventory	Dimensions	Example
PII	Uni-dimension	Zaichkowsky, 1985; Jamrozy, Backman & Backman, 1996
	Attitudinal, Arousal involvement	McQuarrie & Munson, 1987
MPPII	Attraction, Centrality, and Self-expression	Chen, Huan & Chen, 2015; Chen, Li & Chen, 2013; Gross & Brown, 2008; McIntyre, 1989; McIntyre & Pigram, 1992;
CIP	Importance, Pleasure, Sign, Risk consequence, Risk probability	Dimanche et al, 1991; Iwasaki & Havitz, 2004; Prebensen et al., 2013

PII: Personal Involvement Inventory

MPPII: Modified Personal Involvement Inventory

CIP: Consumer Involvement Profile

2.5.4 Consequence: Place attachment.

The concept of place attachment initially emerged in the field of environmental psychology and geography (Hwang, Lee & Chen, 2005; Lee, Kyle & Scott, 2012).

Lewicka (2011) states that the connection between human and place has been investigated for more than forty years, revealing that “place is an object of a strong attachment” (p. 207). These studies were utilised in, for example, studies of pro-environmental behaviour (Halpenny, 2010; Scannell & Gifford, 2010b), environmental education (Kudryavtsev, Stedman & Krasny, 2012), and civic activity (Donder, Witte, Buffel, Dury & Verte, 2012; Lewicka, 2005) as well as the leisure and tourism sector (Kyle, Graefe & Manning, 2003; Lee, 2011; Ramkissoon, Smith & Weiler, 2013; Ryan, Kaplan & Grese, 2001; Wu, Tsai, Hsu & Chen, 2010). According to Manzo and Devine-Wright (2014), place attachment refers to “emotional bonds that form between people and their physical surroundings” (p. 2). However, as Scannell and Gifford (2010a) assert, the meanings of place attachment are diverse depending on the perspectives of researchers. For example, humanistic geographers prefer ‘sense of place’ referring to a universal affection towards the specific land inherited from ancestors to descendants, which includes social and cultural bonding of people and land (Kudryavtsev et al., 2012). In the case of tourism and leisure, place attachment is defined as “the extent to which an individual values or identifies with a particular environmental setting” (Moore & Graefe, 1994, p. 17).

As Lewicka (2011) noted, in sociology, place attachment has been highlighted in a modern mobile society in which people needed to move place to place involuntarily, for example, for family, business, or political reasons, especially in Western society. Place attachment often grows when people leave the place and recognise the place. In this sense, the concept of place attachment contains ‘time-space’ compression (Massey, 2010).

The social mobility generates various problems such as an increase in crime rate, individual mental illness, or devastation of environments. Studies of place attachment have often investigated in such circumstances with the aim of alleviating distress or grief caused by relocation of people (Scannell & Gifford, 2010a). For example, Boğaç (2009) investigated immigrants and found that their previous experience of place attachment affects the level of place attachment to the new place. In smaller scale place attachment, Scannell and Gifford (2010a) reported that adolescents who feel more attachment to neighbours and society tend to engage less in delinquent behaviours.

In volunteerism, the studies of place attachment have been identified as community attachment or a sense of belonging in which people and place are included within a community (Mannino, Snyder & Omoto, 2011). Manzo and Devine-Wright (2014) state that place attachment incorporates the notion of people and surroundings including place, environment, and community. For example, participation in the civic action of volunteering is an important factor of connecting people into community, which increase social capital of the area (Donder et al., 2012; Mihaylov & Perkins, 2014). In addition, Kyle, Teodori, Absher and Jun (2010) investigated the relationship between place attachment to community and civic behaviour to avoid wildfire, and found that higher attachment to home and community induces higher participation in civic engagements such as community meetings, enlightenment activities to avoid fire, or volunteering to clean combustible material.

Another highlighted study area of place attachment in volunteerism is its relationship with pro-environmental behaviour and volunteerism (Raymond, Brown & Weber, 2010; Steadman, 2002). For example, in the case of residential areas, Scannell and Gifford (2010b) report that the strong pro-environmental behaviours including recycling, energy conservation, or volunteering in nature-protection activities predict higher place attachment to the area. Gosling and Williams (2010) investigate the relationship between nature protective behaviours and place attachment of farmers in Australia. Their results indicate that vegetation protective behaviours such as tree planting may increase the sense of place attachment.

In the tourism sector, the concept of place attachment directly connects with the destination marketing which “induces a strong sense of security, trust, confidence, attractiveness, cheerfulness and identification in the tourist” (Tsai, 2012, p. 139). Moore et al, (1994) found that the setting chosen by recreationists is a central factor to whether they are satisfied with the activities. Place attachment to the destination induces the place satisfaction, destination loyalty, and revisiting behaviour (Prayag & Ryan, 2012; Tsai, 2012) as well as promotion via word of mouth (Lee, Kyle & Scott, 2012). Yuksel, Yuksel and Bilim (2010) similarly found that place attachment predicts satisfaction and destination loyalty. Tourists’ sense of connection with the destination produces the sense of satisfaction after the activities. In these studies, place attachment plays a role of predictor or independent variables. In contrast, place

attachment is also predicted by other notions, for example leisure involvement (Gross & Brown, 2008; Kyle et al., 2003, 2004; Pan, Wu, Chou & Simpson, 2012; Prayag & Ryan, 2012). These studies identify that leisure involvement affects place attachment.

2.5.4.1 Measurement of place attachment

A number of researchers have sought structural components of place attachment, which measure the subjective importance of the emotional bond to the place (Farnum, Hall & Kruger, 2005; Jordan, 1996; Lewicka, 2011). While some scholars recognise a single dimension of place attachment (e.g. Bonaiuto, Aiello, Perugini, Bonnes & Ercolani, 1999; Lewicka, 2005), multi-dimensional components are widely accepted by leisure and tourism scholars (Tonge, Ryan, Moore & Beckley, 2014). Examples of well-supported components of place attachment include place identity and place dependence (Kyle et al., 2003; Moore & Graefe, 1994; Williams & Roggenbuck, 1989; Williams & Vaske, 2003).

Place identity refers to “an individual’s valuing of a setting for more symbolic or emotional reasons”, and the extent to which functions of the place fulfil the persons’ identity over time (Moore & Graefe, 1994, p. 17). In contrast, place dependence explains “the importance of the place in facilitating a user’s activity”, and the extent to which the facilities of the place satisfy a person’s expectation over the other alternatives (Moore & Graefe, 1994, p. 17). Brown and Raymond (2007) acknowledge the validity of the two dimensional components of place attachment in a region including national parks, forest parks, and residential areas. Kyle, Graefe and Manning (2005) add another dimension of social bonding, the affection to social relationships in specific settings such as people in the community or memories of the place, in addition to the previous two dimensions. Studies in the tourism sector often utilise the dimensions of place attachment with relation to tourist satisfaction, destination loyalty, and intention to revisit destination (Lee, Kyle & Scotte, 2012; Prayag & Ryan, 2012; Yuksel, Yuksel & Bilim, 2010) as well as leisure involvement (Gross & Brown, 2006; Hwang et al., 2005; Jiang, Wu & Lu, 2014; Kyle et al., 2003, 2004; Lee, 2011).

2.5.4.2 Factors affecting place attachment

According to Lewicka (2011), scholars have investigated the predictors of place attachment in mainly three areas; socio-demographic, social, and physical environmental. For example, while variables such as age, social status, or education

have been regarded as predictors of place attachment, the length of residence is the strongest predictor (Lewicka, 2011). In addition, Gustafson (2014) focuses on a phenomenological approach regarding mobility and place attachment, and acknowledges that place attachment is related to the length of living in the place (citizens, immigrants, and travellers). The difference of territorial or social size of the place is regarded as one of the determinant of strength of place attachment, however, empirical studies showed mixed outcomes (Gustafson, 2014). Lewicka (2011) argues that several factors may affect place attachment such as sense of home and away (distance from home), density of the place, status as a local or newcomer, length of stay, and perceived control of the area. Panisa, Sirivan and Nak (2009) investigated tourists to Chiangmai in Thailand, and found that domestic tourists have more attachment than international tourists do. Also, Ryan and Grese (2005) recognise that the number of visitations to the destination has strong relationship with place attachment as the visitors tend to feel at home in the destination. Lastly, as some researchers mention, physical features may affect place attachment such as architectural design or natural beauty (Bonaiuto et al., 1999; Brown, Perkins & Brown, 2003).

As a number of scholars have pointed out, place attachment is highly predicted by leisure involvement (Cavin, Cavin, Kyle & Absher, 2005; Pan et al., 2012; Prayag & Ryan, 2012), however, with different dimensions of place attachment and involvement. For example, Kyle et al. (2004) adopted the three dimensions of place attachment (place identity, place dependence, and social bonding) and three dimensions of leisure involvement (attraction, centrality, and self-expression) into consideration to identify the relationship between hikers' involvement and place attachment. They found that the attraction dimension of activity involvement predicts place identity and place dependence well, and the self-expression dimension of involvement affected all three of the place attachment dimensions. Jiang et al. (2014) employed three dimensions of leisure involvement and two dimensions of place attachment, and found that the attractions dimension of leisure involvement strongly affects both place identity and place dependence in rural tourism destinations.

In environmental restoration volunteering, Ryan et al. (2001) investigated regular basis volunteers and their attachment to the place where they have volunteered. Long-term

environmental volunteers tend to have place attachment that correlates with the strength of their commitment. However, commitment was measured mainly by the length of volunteering and did not consider participants' psychological commitment even though place attachment was measured by cognitive scales. In addition, the study focused on long-term volunteers rather than episodic volunteers, and did not reflect on the place attributes of parks or stream walkways, which include leisure components.

2.5.5 Proposed model.

According to Omoto and Snyder (2002), the VPM is constructed by three stages, antecedents, experiences, and consequences. Snyder and Omoto (2008) state that at the antecedent stage, personality, characteristics and motivations of individuals are identified "to predict who becomes involved as volunteers" (p. 8). At the second stage of the VPM the "factors that make for more pleasant and rewarding experiences... and those that detract from enjoyment" are examined (Snyder & Omoto, 2008, p. 8). In addition, as Havitz et al., (1993) noted, multi-dimensional scales of leisure involvement can be used to give a more valid measure of leisure, recreation, and tourism experiences. In this sense, as leisure involvement includes the dimension of pre-trip experiences (centrality and self-expression) and on-site experiences (attraction), leisure involvement is a continuum concept including antecedents and experiences (Havitz & Dimanche, 1990, 1997).

The relationship between motivations and leisure involvement is often seen in academic literature in volunteerism, serious leisure, and the tourism sector (Asah & Blahna, 2012; Chen, Li & Chen, 2013; Lu & Schuett, 2014; Ryan et al., 2001). Kyle et al. (2006) investigated the relationship between tourism motivation and leisure involvement in campsites in natural forests, and found that the escape factor of motivation positively influences the attraction factor of leisure involvement, and the learning factor affects the centrality factor.

In serious leisure, Chen and Tsaur (2012) identify the relationship between the participants' characteristics and leisure involvement, and show that characteristics including level of perseverance, leisure career, unique ethos, and identity enhancement have positive effects on leisure involvement. Specifically, unique ethos strongly affects the attraction factor of leisure involvement, and identity enhancement

influences the centrality to lifestyle factor of leisure involvement. Similarly, Lee and Scott (2013) found that commitment to the activity has a strong relationship with the elements of perseverance and identity. Further, the seriousness of participants is highly predicted by characteristics of perseverance and effort. Shih and Chen (2013) also found that there is a strong relationship between serious leisure characteristics and leisure involvement in recreation vehicle club members. Moreover, Huang et al. (2014) investigated volunteer interpreters in tourism and leisure organisations, and found that serious leisure characteristics of volunteer interpreters have significant correlation to leisure involvement. Thus, serious leisure characteristics are strongly related to leisure involvement.

In terms of volunteerism, Lu and Schuett (2014) found that altruistic motivations positively affected the centrality and the self-expression factor of involvement, and social and self-enhancement motives strongly influenced the attraction factor in voluntary associations.

Thus, studies in volunteerism, leisure, and the tourism sector suggested that there is a strong relationship between motivation factors and leisure involvement dimensions. Considering these findings of previous studies, the following hypothesis for environmental volunteering in eco-leisure/tourism settings is proposed:

H1: Each dimension of leisure involvement of environmental volunteers at remote islands is positively affected by each dimension of motivational factor.

Under the VPM, the consequences of volunteering are derived from experiences while volunteering (Snyder & Omoto, 2008). Some researchers in volunteerism have found that a sense of place attachment can be enhanced as a consequence of the tree planting experience (Kaplan & Kaplan, 2005; Kyle et al., 2003; Ryan & Grese, 2005). This suggests that actual involvement in volunteering affects the sense of place attachment. In addition, in leisure and tourism studies, the relationship between leisure involvement and place attachment are often investigated and revealed as discussed above (Gross & Brown, 2006; Hwang, Lee & Chen, 2005; Jiang, Wu & Lu, 2014; Kyle et al., 2003, 2004; Lee, 2011; Pan et al., 2012; Prayag & Ryan, 2012).

Considering these studies, following hypotheses are proposed:

H2: Each place attachment dimension of environmental volunteers at remote islands is positively affected by each dimension of leisure involvement.

H3: The VPM accounts for the total relationships between motivations, leisure involvement, and place attachment of environmental volunteers on remote islands (Figure 3).

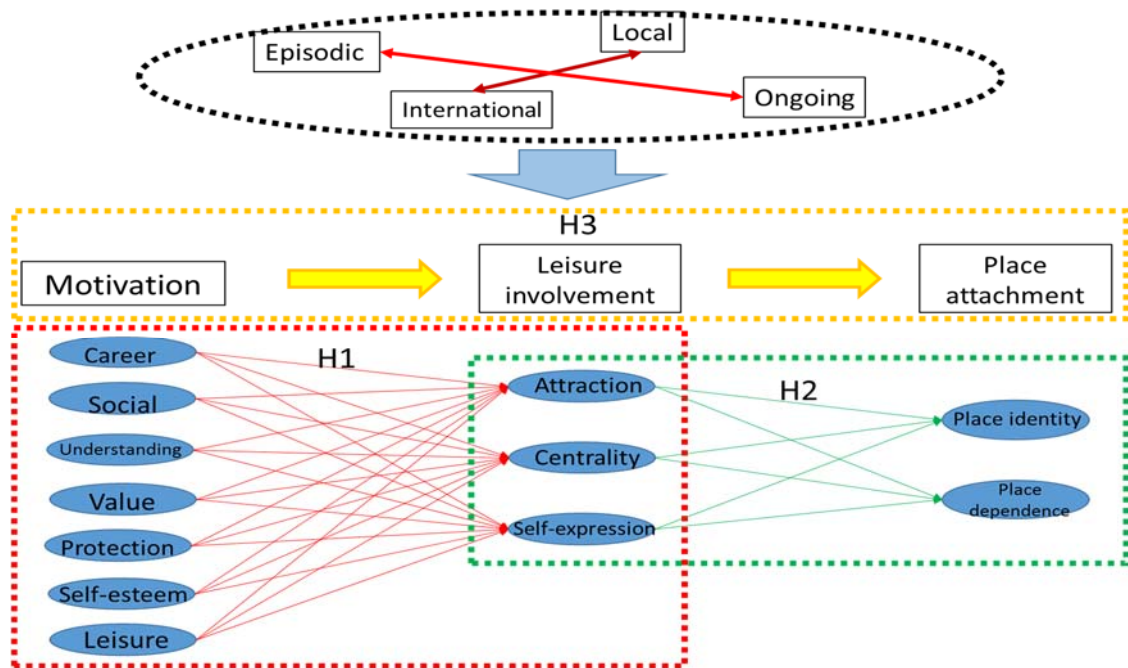


Figure 3: Theoretical model of environmental volunteer process (Sources: Adapted from Omoto and Snyder (1995, 2002))

2.6 Summation

Environmental volunteering can be viewed from three perspectives; volunteerism, leisure, and tourism. While these three discourses contain different concepts, common elements are included. These activities are all based on one's free will in their free time; with volunteerism containing helping activities; leisure including self-interested purposes; and tourism including space limitations such as taking place out of normal life space.

Some scholars state that socio-demographics such as age, education and income are important factors in volunteering (Bussell & Forbes, 2002; Matsuba et al., 2007; Omoto & Snyder, 2002). Middle- to older-aged, higher income earners and higher educated people tend to do more volunteering and belong to more volunteer organisations (Wilson, 2012). While motivations to volunteer are heterogeneous, altruistic motives

are the core element of volunteering. One of the well-known motivation theories of volunteerism is the Volunteer Function Inventory (VFI) which contains six functional motives: values; understanding; enhancement; career; social; and protective. For example, value motives including altruism positively affect continued participation in volunteering; while self-enhancement negatively affect continuous or long term participation.

While episodic volunteering is becoming popular, studies of this area are still rare, for example, there are few motivational comparisons between episodic and ongoing volunteers. Functional approaches have also been adopted in the environmental volunteering context, however, due to the complexity of elements of environmental volunteering it is not adequate to apply just the VFI on environmental volunteering, as discussed by Bramston et al. (2011).

Volunteering can be assessed from leisure perspectives as the activities are based on one's free will in one's free time. Leisure motivation has often been studied, as the core concept of leisure study was how people spent their free time from their obligations wisely. In previous studies, leisure motivations were classified into four categories: intellectual motives; social reason; competence/mastery motives; and escaping from normal life. The serious leisure perspective of volunteering focuses on self-interest motives and competence/mastery motives rather than altruistic motives. Specifically, serious leisure participants showed six qualities and characteristics: 1) perseverance; 2) leisure career; 3) significant effort; 4) individual benefits; 5) unique ethos of the group; and 6) identification with pursuit in the group (Gould et al., 2008). A recent trend of serious leisure also indicates a move towards shorter and more episodic types of serious leisure, and project-based leisure (Stebbins, 2005, 2008). While this type of serious leisure does not include specific leisure career path, it still needs substantial effort or planning. Volunteers in the project based leisure are labelled as leisure volunteers who seek more leisure experiences in volunteering (Twynam et al., 2002).

As discussed in tourism literature, international volunteering occurred with humanitarian activities such as mission trips in which volunteers from developed countries engaged in volunteering in developing countries. On the other hand, specific ecotourism activities such as wildlife/environmental research and protection often

included environmental volunteer activities to protect natural resources. Ecotourists who have a greater responsibility towards nature and do not rely on man-made facilities were called *hard core* ecotourists (Fennel, 2002b). These ecotourists were motivated by being close to nature, knowledge gain, and escape from daily life (Luo & Deng, 2008). In addition, Weaver (2002) identified that peace, tranquillity, and learning goals are important motivations for experienced ecotourists. Thus, studies of volunteer tourism contain elements of both volunteerism and ecotourism.

Socio-demographics and motivations of volunteer tourism are relatively well studied. Volunteer tourists are broadly classified into somewhere between altruistic-oriented and egoistic-oriented. For example, younger generations who engage in a short programmes tend to be motivated by egoistic motivations. On the other hand, altruistic-oriented tourists focus on activities that are most helpful for local communities.

Experiences of volunteer tourism are relatively unidentified (Wearing & McGehee, 2013b). Volunteer tourism provides tourists with a deep and lasting impression such as opening up cultural horizons, as well as instant rewards such as a sense of satisfaction and happiness (Zahra & McIntosh, 2007). Gray and Campbell (2007) identify social interaction with both volunteers and local people, learning and education opportunities, and relaxation as the main experiences of volunteer tourism. As consequences, volunteer tourists gain personal growth and self-actualisation (Brown, 2005; Lepp, 2009), changing of life view (Lo & Lee, 2011; Grabowski, 2013), as well as typical tourism experiences such as cultural immersion or socialisation (Brown, 2005; Lepp, 2009; Lo & Lee, 2011). However, due to the fact that studies of volunteer tourism experience are still at an exploratory stage, research thus far has been based on a qualitative approach such as interviews and a focus group. Therefore, the relationship between, for example, motivations, experiences, and consequences of volunteer tourists is yet to be fully investigated.

Volunteerism, leisure, and tourism sectors do accumulate significant quantitative research. Volunteerism studies identified the volunteer process model (VPM) of total volunteer experience including stages of antecedents, experiences, and consequences. Volunteer motivations are often studied in volunteerism using the Volunteer Function Inventory (VFI), as well as in leisure and tourism industry. Leisure involvement is a core

concept in serious leisure contexts in terms of the requirement and commitment of time and effort in leisure activities (Dimanche et al., 1991; Kane & Zink, 2004; McIntyre, 1992, Twynam et al., 2002). The results of these studies revealed that a certain type of recreationists and volunteers have specific characteristics of serious leisure, and those serious leisure participants often experience a higher level of leisure involvement. Also, in the ecotourism sector, studies of tourist propositions, attitude and behaviour change through the ecotourism experience are often investigated (e.g. Poudel & Nyaupane, 2013; Powell & Ham, 2008; Stern, Powell & Ardorin, 2008; Tubb, 2003). These studies indicate that ecotourism experiences affect positive attitude and behaviour change after participation. In addition, Orams (1996, 1997) mentions that active participation in ecotourism settings is an important element for the learning process that enhances the tourism experiences affecting environmental attitude and behavioural change. In the case of environmental volunteering, active participation in restoration programmes in urban natural settings positively increases the sense of place attachment (Kaplan & Kaplan, 2005), so that active and actual participation, for instance volunteering tree planting, may affect emotional outcomes such as place attachment strongly. These studies indicated that the VPM can be applied in an environmental volunteer context which includes leisure and tourism elements. However, these relationships have not been investigated in environmental volunteering at eco-leisure destinations such as remote islands.

Chapter Three: Research Design and Methods

3.1 Introduction

This chapter discusses the rationale behind how the research methods in this study were chosen and applied. Research design is particularly important in the social sciences for identifying critical and logical ways to proceed in the process of the research enquiry (Finn, Elliott-White & Walton, 2000). The purpose of this study is to identify characteristics of environmental volunteers and to gain an understanding of the totality of their experiences from multidisciplinary perspectives. The research includes a survey applied to the study that specifically considers; the socio-demographical and motivational characteristics, and relationships between motivation, experience of leisure involvement, and place attachment, to identify critical factors central to the participants' volunteer experiences in the Hauraki Gulf.

3.2 Research paradigm

Kuhn (1962) states that research needs a paradigm, defined as 'some accepted examples of actual scientific practice – laws, theories, applications and instrumentation taken together – providing models from which spring particular coherent traditions of scientific research' (p.10), that constitutes how a theory or fact is acknowledged. Tribe, Dann and Jamal (2015) describe paradigm as "how a group of people think, how they categorise the world, their rules for behaviour and how they explain things" (p. 27). A theory or fact of science is to be recognised within the same rules and standards as an evidence of the truth. Tribe (2006) also notes that paradigm can set the boundaries of the research to support the consistency and adherent of the study against critiques. As tourism studies often stand on knowledge from other principles, it is crucial to define research position which makes the study more scientifically meaningful and reproducible (Botterill & Platenkamp, 2012).

In tourism research, there is two primary paradigms discussed, namely positivism and interpretivism (Henderson, 2011; Melkert & Vos, 2010). The former tries to account for the cause and effect of human behaviour and the latter focuses on understanding and interpreting human behaviour standing on individual perspective (Melkert & Vos, 2010). The positivism perspective is based on realistic and scientific facts, whereas the

interpretivism perspective is based on ideal and individual perceptions (Slevitch, 2011). Dwyer, Gill and Seetaram (2012) notes, positivism approaches have been practiced in tourism sector as it is suitable to apply knowledge and test models from other disciplines. As the purpose of this study includes finding socio-demographic and motivational characteristics of environmental volunteers by using the VFI, alongside the causes and effects of relationships between motivation, leisure involvement, and place attachment, the positivism perspective is a suitable approach for this study.

3.3 Rationale of research paradigm

Research paradigm is distinguished by *ontology* (the nature of reality), *epistemology* (knowledge), *methodology* (the way of research), and *methods* (procedures) (Henderson, 2011; Slevitch, 2011). As Azzopardi and Nash (2014) state, these notions are correlated aspects each other that decide and guide research design and methods. As Henderson (2011) states, positivism acknowledged that “truth is an independent part of a whole, theory should be deductive and a prior, rational cause and effect is possible, and that scientific research is objective/value-free” (p. 341).

Ontology is the philosophical study of reality, describing how entities exist (Guba & Lincoln, 1994). The ontological assumptions of positivism are that an object reality is independent from human perception and therefore can be discovered objectively. The reality is only one which is explained by general laws (Slevitch, 2011). These ontological assumptions lead the position of epistemological assumption.

Epistemology is a theory of knowledge, that is, how people know what they know or how the truth is recognised (Guba & Lincoln, 1994). The epistemological position of positivism regards knowledge objectively; therefore, what is known is value-free, independent and non-biased from researchers (Azzopardi & Nash, 2014; Henderson, 2011). Also as positivism assumes that a result gained coincides with the truth and a fact as it is, validity of the truth is secured (Slevitch, 2011). There is a clear relationship between epistemological stance and methodological practice; epistemology includes a philosophy of how people know the world, and methodology contains how to practice (Liburd, 2012).

Methodology refers to a theoretical system containing the way which research is carried out or evaluated (Dann, Nash & Pearce, 1988). Guba and Lincoln (1994) also

state that methodology is the strategies of answering the epistemological question of how people get to know the truth they believe. As the positivism perspective is based on the objective reality and independent from researchers, the phenomenon can be explained by external causes measured by value-free evidence (Guba & Lincoln, 1994). Therefore, the procedures of positivism follow measurable techniques with a large amount of data which enable to be generalised (Denzin & Lincoln, 1994; Slevitch, 2011).

As Slevitch (2011) notes, *methods* referring to a set of tools, procedures, or techniques for data collection are determined by assumptions of ontology, epistemology, and methodology. Accordingly, as the positivism position supports existing reality, objective knowledge, and measurable and generalizable process, the methods includes empirical examination, hypothesis testing and developing a survey instrument, which produce quantitative data.

3.4 Quantitative method

Quantitative method stems from positivism in which a phenomenon is an objective reality and can be discovered in ontological and independent form researchers in epistemological (Slevitch, 2011). That is, the phenomenon can be investigated by observable causes which is to measure and analyse relationships between phenomena, and therefore can be deductive and generalised (Denzin & Lincoln, 1994). Objectivity and generalisation can be achieved by statistical analysis including experiments or surveys with numerical data in social science (Slevitch, 2011). Surveys are often used in social science to gather basic data about activities, believes, and attitude of a large number of people, however, mainly focussing on narrow and re-defined topics (Johannesson & Perjons, 2014). To achieve the purposes of this study, which is to identify the causal relationships between motivation, leisure involvement, and place attachment, a survey was adopted as a method.

3.5 Study settings

Islands in the Hauraki Gulf Marine Park were chosen as a study setting (Figure 4), as this marine park contains a number of recreational islands where restoration programmes have been conducted for many years, by private trusts and the Department of Conservation. These restoration programmes provide various

experiences for environmental volunteers including both local residents and international tourists. The New Zealand government promotes the islands as eco-leisure destinations alongside private tourism providers. Some of these islands do not have any residents and others are populated. These conservation areas are close to New Zealand's largest city, Auckland that hosts the country's largest international airport. These factors make the destination attractive to many types of visitors including volunteers who are inclined to participate in such programmes.

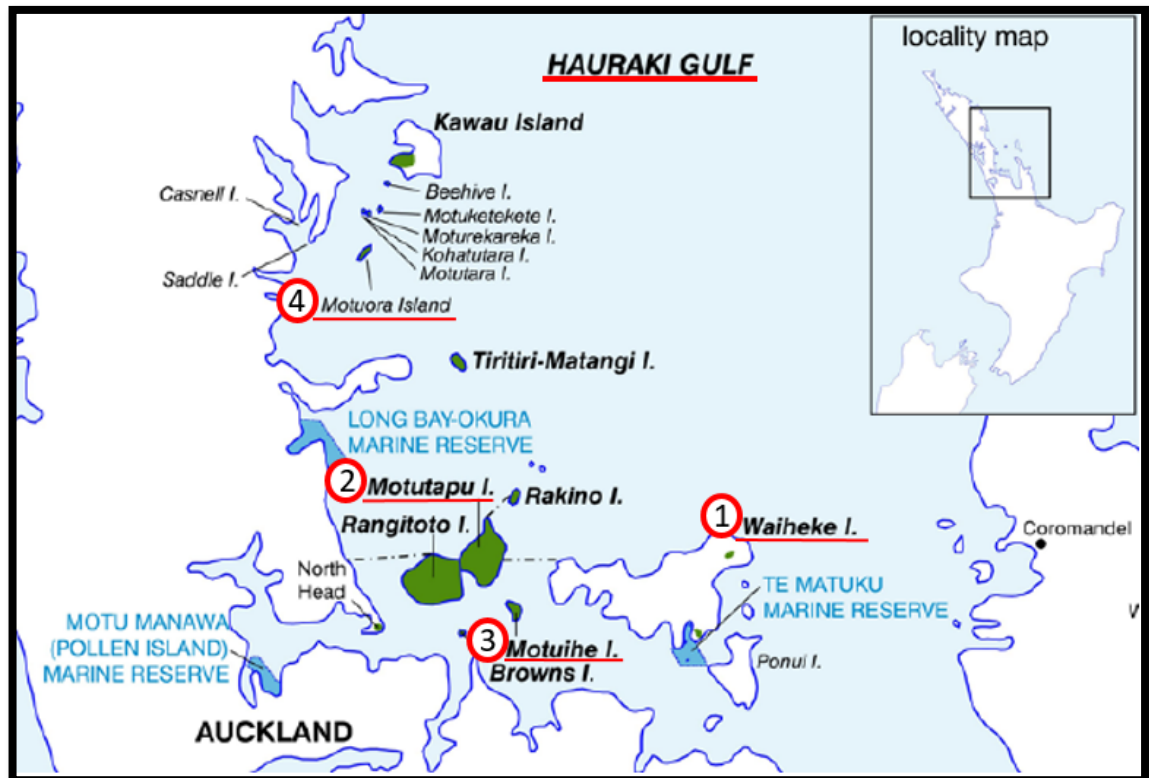


Figure 4: Map of the Hauraki Gulf in Auckland Source: Auckland City Council (2016) retrieved from <http://www.aucklandcouncil.govt.nz/EN/AboutCouncil/representativesbodies/haurakigulfforum/Documents/haurakigulffislandsmap.pdf>

The survey was conducted in the islands of the Hauraki Gulf Marine Park and remote area of Kaitoki in Whangarei region as study settings. Whangarei region was included, as an international volunteer tourism operator runs a tree planting activity for students from overseas. Participants of the activity engaged in similar restoration programme with other islands in which they stayed and volunteered out of their daily life hemisphere. They also had free time after volunteering. So that, it was regarded as the participants in Kaitoki area also fulfil the criteria of this study.

3.5.1 Newton Reserve in Waiheke Island.①

Waiheke Island (Figure 4, ①) is one of the larger residential islands in the Hauraki Gulf, producing tourist attractions such as sandy beaches, wineries, arts, and recreation (Robinson, 2008). The Newton Reserve is located on the north side of Waiheke Island, containing six hector of native bush in wetland and costal cliffs (Waiheke Resources Trust, 2011). Volunteering is held on every second Sunday of the month by Kaitiaki of Newton Reserve (KNR), a neighbourhood conservation group funded by Auckland Council. Their focus is on restoration and maintain of the reserve mainly by planting native trees and weeding to increase biodiversity. Most of volunteers are to travel from mainland of Auckland, taking 35 minutes in a ferry and 20 minutes in a bus. The numbers of participants usually range between 10 and 15 people. Participants are required to volunteer for two or three hours in the morning, instead free lunch and partial transportation fee are supported by KNR. The programme finishes around early afternoon, and participants have free time after volunteering in Waiheke Island.

3.5.2 Motutapu Island.②

Motutapu Island (Figure 4, ②) is a 1509 hectares' island located in Hauraki Gulf, about 30minits away from Auckland harbour by ferry. This island is a hiker's destination including bush, beach, and historical heritages from World War II (Department of Conservation [DoC], 2010; The Motutapu Restoration Trust, 2015a). Also Motutapu Island facilitate overnight visitors at batches as well as special events providing visitors diverse experiences (DoC, 2014). While Motutapu Island used to be a farmland until the 1990s, a community restoration programme was launched in 1992, aiming for transformation from a farmland to a protected natural and cultural island (DoC, n.d.c).

Restoration activities are run by Motutapu Restoration Trust established in 1994, aiming to restore natural and cultural landscape of Motutapu Island as it used to be (The Motutapu Restoration Trust, 2015c). The Motutapu Restoration Trust declared pest free sanctuaries in 2011 that enable to maintain iconic native birds such as brown wiki bird or Takehe bird which attract visitors to the island. The Motutapu Restoration Trust has achieved 500,000 tree planting which cover around 95 hectares with native bush on the island (The Motutapu Restoration Trust, 2015b). The volunteer work in Motutapu Island include tree planting, weeding, and nursery work, however, the main

volunteer work for most of volunteer in winter season is tree planting. Volunteer working days are held on the first, third, and fifth Sunday of the month. The typical duration of the activities is normally from 9am. to 5pm. including around three to four hours volunteering and two hours refreshment after volunteering at historical building on the island. Volunteers have free time before getting on the ferry going back to Auckland Harbour. The free time of this programme is relatively shorter than other programmes.

3.5.3 Motuihe Island.③

Motuihe Island (Figure 4, ③) is a pest-free 179 hectares' island described as the best sandy beach of the inner Hauraki Gulf islands, in which visitors are often attracted by swimming, walking, camping, and indigenous heritage sites (DoC, 2010). While Motuihe Island was also used as a farmland and military purposes during World War II, the island is progressively restored and maintained in mammalian pest free due to the small size of the land (DOC, 2014). Motuihe Island has accepted reintroduced native species which enhance visitor experiences.

Motuihe Trust was established in 2003 to restore, enhance, and protect native flora and fauna, and historical sites offering recreational, environmental and educational experience in Motuihe Island (DoC, n.d.b). The Motuihe Trust organises volunteer working days every first, third and fifth Sunday of the month from 9am. to 5pm. including around three hours volunteering, refreshment, and one-hour guided walk on the island if participants want. Volunteer work are mainly planting, weeding, and nursery work, however, most of volunteers engage in planting work in winter season. Volunteers have free time after refreshment for around two hours before getting on the ferry. In addition, the Motuihe Trust accepts international volunteers from a commercial volunteer tourism operator. They have two-week programme on the island, however, volunteer work is incorporated with other domestic volunteers on the volunteering day.

3.5.4 Motuora Island.④

Motuora Island (Figure 4, ④) is an eighty-hectare island located in northern Hauraki Gulf, where visitors enjoy swimming, picnicking, walking, and camping (DoC, 2010). It takes 45 minutes to get Motuora Island by a boat from the nearest harbour where is

about 65 kilometre way from Auckland. While Motuora Island has a long history of human occupation of farming for a century, it becomes one of the pest-free islands and hosts endangered species such as Kiwi birds after the effort of volunteers of Motuora Restoration Society (Motuora Restoration Society, 2015a).

Motuora Restoration Society was established in 1995, aiming for that “future generations will enjoy a forest alive with native birds, reptiles and insects” (Motuora Restoration Society, 2015b. “Welcome”, para. 1). Motuora Restoration society has done tree planting for the last 15 years with covering over the island, therefore, volunteer work are focused on maintenance tasks such as weed control and track maintenance, as well as native species control including monitoring animals and introducing native birds or insects (Motuora Restoration Society, 2015a).

The duration of usual volunteer work is from 8a.m. to 4p.m. including two to three hours volunteering and refreshment supported by Motuora Restoration Society. After the refreshment, volunteers have free time around for two to three hours before getting on the boat.

3.6 Survey instrument

3.6.1 Developing a survey instrument.

There are some fundamentals for the positivism perspective to examine a phenomenon, such as conducting research by means of “respectively specifically developed instruments from the primary source for numerical data” and attempting “to test the theoretical constructs as represented by the model” (Jonker & Pennink, 2010, p. 70). Therefore, researcher needs to utilise deliberately generated data from a survey in which questions are linked to variables of the model that is deduced from theories (Jonker & Pennink, 2010). According to Finn et al. (2000), an analytical survey seeking explanation or testing specific hypotheses needs to identify independent and dependent variables beforehand. Therefore, all pertinent variables in the survey should be considered and operationalised based on previous research to keep the internal validity which account for the legitimacy of hypothesised relationships (Finn et al., 2000). The survey instrument designed for this study also follows the theory of previous research containing Volunteer Function Inventory (Kyle, Snyder & Ridge, 1992), motivation study of environmental volunteers (Bruyere & Rappe, 2007; Ryan,

Kaplan & Grese, 2001), studies of the relationships between motivations and leisure involvement (Kyle et al., 2006; Lu & Schuett, 2014), and studies of leisure involvement and place attachment (Prayag & Ryan, 2012).

The survey developed for this study was self-administered instrument (Appendix A) and included a Participant Information Sheet (PIS, Appendix B) required by Auckland University of Technology Ethics Committee (AUTC). The survey was designed in four parts, an introduction to the research, motivational questions, experiential questions, and socio-demographic questions.

The motivational questions include 35 items based on the VFI (Clary et al., 1992; Clary & Snyder, 1999) as well as Bruyere and Rappes' (2007) study containing five-point Likert-type scales with a 'Not Applicable' option: 1 = "Strongly disagree", 2 = "Tend to disagree", 3 = "Neither agree nor disagree", 4 = "Tend to agree", 5 = "Strongly agree", and 6 = "Not Applicable". According to Jonneson and Parjoins (2014), Likert-type scales are a measurement tool which provides standardised data that does not require interpreting answers, providing a simplified analysis of data. Therefore, it is suitable to measure people attitude, behaviour, or opinion on specific aspects (Finn et al., 2000). As Gideon (2012) states, response rate for closed-end questions is higher than open-end questions due to the provided answers which respondents can choose from. So that Likert-type scales are the most suitable for quantitative research (Finn et al., 2000).

The survey was designed to assure the questions were appropriate in the research context. Accordingly, some of items were re-described to fit the study contexts. For example, one of the VFI items of *values* scale, "I am genuinely concerned about the particular group I am serving" was changed to "I am genuinely concerned about the location I am volunteering in" (Tables 3 and 4).

In the following section, items regarding volunteering experiences were asked. As some participants took part in more than one volunteering programmes, they were asked to answer in relation to the island they most frequented as volunteers. Afterwards, questions regarding leisure involvement and place attachment were asked based on Lee's (2011) study including the Modified Personal Involvement Inventory (MPII) and two-dimensional place attachment scales (Tables 5 and 6).

Table 3: Items of the VFI used in this study

Social motivation items
1. My friends and family enjoy volunteering.
2. People I'm close to volunteer.
3. People I know share an interest in environmental activities.
4. My friends place a high value on community services.
5. Volunteering is an important activity for the people I know best.
Value motivation items
6. I am concerned about damage to the natural environment.
7. I am genuinely concerned about the location I am volunteering in.
8. I have compassion for the health of the environment.
9. I feel it is important to help to improve natural environment.
10. I can do something for nature that is important to me.
Career motivation items
11. My volunteer experience will help me improve skills at work.
12. I can make new contacts that might benefit my business or career.
13. Volunteering allows me to explore different career options.
14. Volunteering will help me succeed in my chosen profession.
15. Volunteering will look good on my resume.
Learning motivation items
16. I can learn more about the cause for which I am interested.
17. Volunteering allows me to gain a new perspective on things.
18. Volunteering lets me learn through direct hands-on experience.
19. I can deepen my understanding of eco-systems that supports plants and animals.
20. I can explore my own strengths and weaknesses.
Protective motivation items
21. I feel volunteering relieves me of the guilt caused by humans destroying nature.
22. Volunteering helps me work through my own personal problems.
23. Volunteering is a good escape from my own troubles.
24. No matter how bad I've been feeling, volunteering helps me to forget about it.
25. By volunteering I feel less lonely.
Enhancement motivation items
26. Volunteering makes me feel important.
27. Volunteering increases my self-esteem
28. Volunteering makes me feel better about myself.
29. Volunteering is a way to make new friends.
30. Volunteering makes me feel needed.

(Source: Clary et al., 1992; Clary & Snyder, 1999)

Table 4: Leisure motivation items

Leisure motivation items
31. Volunteering is for me a form of having fun.
32. Volunteering gives me an opportunity to enjoy a day out.
33. Volunteering gives me an opportunity to work with my friends or family members.
34. Volunteering makes me feel relaxed.
35. Volunteering helps me keep fit.

(Source: Bruyere & Rappe, 2007)

Some questions were adjusted to fit in the context of environmental volunteering on islands by the primary researcher and the supervisors. For example, the original item “Visiting the wetland is very important to me” was changed to “Volunteering on this island is very important to me”. Each item was asked in a five-point Likert-type scales: 1 = “Strongly disagree”, 2 = “Tend to disagree”, 3 = “Neither agree nor disagree”, 4 = “Tend to agree”, and 5 = “Strongly agree”. In addition, the last section of the experience part contained some questions regarding participants’ previous experience such as the length and frequency of volunteering, duration of the last period of volunteering, tasks undertaken while volunteering, and associates. These factors are assumed to influence the volunteers’ motivations and experiences of volunteer activities (Ryan et al., 2001)

Table 5: Leisure involvement items

Attraction
1. Volunteering on this island is very important to me.
2. Volunteering on this island is one of the most enjoyable things that I do.
3. Volunteering on this island pleases me.
4. Volunteering on this island interests me.
5. Volunteering on this island offers me relaxation.
Centrality
6. A lot of my life is related to volunteering on this island.
7. Volunteering on this island plays a central role in my life.
8. Most of my friends are in some way connected with volunteering on this island.
9. I like to discuss volunteering on this island with my friends.
Self-Expression
10. When volunteering on this island, I can demonstrate my ability and personality.
11. I can tell others a lot about volunteering on this island.
12. When volunteering on this island, I can really be myself.
13. When I volunteer on this island, others see me the way I want them to see me.

(Source: Lee, 2011)

Table 6: Place attachment items

Place Identity
1. Volunteering at this place is meaningful to me.
2. I identify strongly with visiting this place.
3. I am very attached to visiting this place.
4. I have a special connection to visiting here and other tourists who visit this place.
Place Dependence
5. I enjoy visiting this place more than visiting any other place.
6. I get more satisfaction visiting this place than visiting any other place.
7. Visiting this place is more important to me than visiting any other place.
8. I would not substitute any other type of recreation for what I do here.

(Source: Lee, 2011)

In the final part, socio-demographic questions were asked. Age, gender, and ethnicity were regarded as determinants in the participation in volunteering (Holmes & Smith, 2009). Some scholars mention that there are positive relationships between the frequency of volunteering and the level of education completed, as well as household income (Cnaan & Handy, 2005; Finlay & Murray, 2005). To identify the difference between domestic and international volunteers, the place of origin was also added.

3.6.2 Pilot study

This research began with a pilot study for quality assurance. According to van Teijlingen and Hundley (2001), pilot studies are important to obtain reliability and validity of the survey instrument as well as feasibility of survey procedures. Pilot studies improve the internal validity in terms of administration of the survey, feedback from subjects, time taken to complete the survey instrument, rewording questions, and adjusting multiple choices (van Teijlingern & Hundley, 2001).

Data collection for the pilot study was held on 3rd and 17th May 2015 and ninety five responses were collected. It was confirmed that the time taken to complete the survey instrument was around ten minutes which is adequate time to complete the survey instrument on the ferry coming back from islands. To test the reliability, Cronbach's Alpha (α), a parameter for assessing for the reliability of scales (Santos, 1999), was checked on motivation items, leisure involvement items, and place attachment items. All α coefficients of motivation items were over .80 (*Career*, $\alpha=.873$; *Understanding*, $\alpha=.866$; *Social*, $\alpha=.0810$; *Values*, $\alpha=.899$; *Protective*, $\alpha=.841$; *Enhancement*, $\alpha=.830$) except the leisure motivation ($\alpha=.698$). However, as Reynaldo and Santos (1999) acknowledge, thresholds of α under .70 are sometimes acceptable in literature if the research is exploratory research. Therefore, it was regarded that the leisure items also have reasonable reliability. In terms of leisure involvement and place attachment items, all components had acceptable α coefficients (*Attraction*, $\alpha=.900$; *Centrality*, $\alpha=.810$; *Expression*, $\alpha=.761$; *Place identity*, $\alpha=.894$; *Place dependence*, $\alpha=.907$).

While Peat, Mellis, Williams and Xaun (2002) mention that "an essential feature of a pilot study is that the data are not used to test a hypothesis or included with data from the actual study when the results are reported" (p. 57), it is not the case if a sample in the main study becomes too small (van Teijlingen, 2001). As the target objects of this

study are those who have experienced volunteer tourism, potential participants are limited. Therefore, the data of pilot study were included in the analysis of main study.

3.7 Data collection

3.7.1 Sampling.

Purposive sampling was partaken for this study as it is suitable to investigate those who have specific knowledge or experience regarding a topic (Johannesson & Perjons, 2014). According to Hibberts, Johnson and Hudson (2012), purposive sampling is useful when the proportionality of sampling is not of concern or when the researcher “seeks out specific individuals who have those characteristics to include in the sample” (p. 67). As the purpose of this study is to identify the motivations and experiences of environmental volunteers, all participants should have environmental volunteer experiences. Therefore, it is reasonable to adopt the purposive sampling method. Respondents of the survey were invited randomly after volunteering either on the island where they had done volunteering or on the ferry going back to the harbour. To gather enough number of respondents the internet survey was also conducted through an e-mail list of the volunteer organisation the Kaitiaki of Newton Reserve.

3.7.2 Sample size.

Sample size is an important factor of critical quantitative research, which requires a large number of responses to ensure objectivity and generalisation (Slevitch, 2011). There are a number of key elements to determine sample size, for example, target population, number of variables, and number of scales to choose (nominal or ordinal scale) (Bartlett, Kotrlik & Higgins, 2001). As one of the objectives of this study is to identify the effectiveness of the VPM to generalise the process of volunteer experiences, it is possible to assume the target population which includes volunteers mostly from Auckland. According to Charities Aid Foundation (2014), 44 percent of New Zealanders participated in volunteer work in 2013. As the estimated population of Auckland is around 1.5 million people in 2015 (World Population Review, 2015), the assumed target population can be around 660,000 people. As in social science, five percent of sampling error and a 95 percent confidential level are often accepted, around 400 responses are a large enough to represent the target population (Finn et al., 2000). In addition, from a statistical perspective some multivariate analyses including factor analysis and structural equation model require at least 200 responses

(Barrett, 2007). Given that, the target sample size is set at 400 respondents to achieve both criteria.

3.7.3 Administration.

Prior to conducting the surveys, permissions to conduct the surveys on islands or ferries were gained from volunteer organisations. Also an approval from AUTECH for this survey was gained on 23 April, 2015 (Appendix C).

According to Bowling (2005), modes of data collection “vary in the method of contacting respondents, in the vehicle of delivering of the questionnaire, and in the way in which questions are administered” (p. 281). This survey was conducted mainly in *paper and pencil self-administration “interview” methods*. For the on-site surveys, potential participants were contacted and invited in person at the volunteering site or on the ferry transporting volunteers from the island. Potential participants were given different options depending on the delivery. They had an option to fill the survey sheet out and place it in a confidential box, or post it back later if not wishing to fill out the information on the site or ferry. They also had an option to fill out the online version of the survey at their convenience. This information was provided on the Participant Information Sheet. To show their consent for participation, on-site and on-line surveys contained the following phrase (Appendix B):

This is an anonymous survey – by completing the following questions, you have given your consent to use the information as research data.

In the on-site surveys, participants were asked whether they preferred to fill up the survey instrument on the site or ferry, or post it back to the primary researcher later.

A total of 429 survey instruments was distributed on site during the period of 3rd May 2015 to 2nd August 2015, and forty three volunteers of Kaitiaki of Newton Reserve were asked to participate in the survey through the on-line survey. A total number of 404 survey forms were collected, however, eight of these had been abandoned before completion. Some forms included missing values on closed-end questions such as motivational items and socio-demographic questions such as age or household income. While missing values produce bias on data, statistical software packages employ missing value techniques to adjust for this bias (Dong & Peng, 2013; Enders &

Bandalos, 2001). Therefore, in this study, there were 396 usable responses, which was 83.9% of the total survey distribution.

3.8 Ethical considerations

Ethical considerations must be taken into account in all types of research including surveys to protect human rights and privacy of information (Finn et al., 2000; Oldendick, 2012). As some scholars mention, a survey in social sciences should guarantee at least *informed consent*, *anonymity*, and *confidentiality* (Beach, 1996; Jonker & Pennink, 2010). According to Finn et al. (2000), to gain participants' informed consent, a researcher needs to address the role of the researcher, the aims of the research, the way in which participants were selected, what participants would do in the research, the time needed to complete the survey instrument, and the results of participation. In addition, as Oldendick (2012) noted, participants should be informed that the participation is completely voluntary and they can withdraw from the survey any time. As Finn et al. (2000) noted, these conditions should be addressed in the research proposal with an ethics committee approval.

The survey was created in consultation with AUTECH regulations and guidelines in ensure participant confidentiality and future access to the research data. In this study, all participants were given written information on the PIS, and *informed consent* was given by completing the survey. *Anonymity* is guaranteed to participants, in which the information given from the participants do not identify the individual. *Anonymity* will increase response rate of a survey as respondents feel more comfortable to give personal information (McNeeley, 2012). To secure the participant's *anonymity*, in this research participants have choices to put their surveys back into a sealed box at the volunteering site or post it back later. *Confidentiality* is about protecting personal details from potential harm when the research published (Finn et al., 2000; Jonker & Pennink, 2010). Oldendick (2012) pointed out that data gained from the survey should be treated and kept in secure place. The surveys were created in line with AUTECH requirement and guidelines in ensuring participant confidentiality and future access to the research data.

3.9 Data analysis methods

3.9.1 Data coding.

To analyse quantitative data from the survey, the Statistical Package of the Social Sciences (SPSS) version 22 and SPSS AMOS version 22 were used. Prior to data analysis, the SPSS requires some coding of variables including *name* of variables, *type* (numerical/string), *label* (descriptive title of variables), *values* (specifying the code of variables), *missing* data (system/user), and *measure* (scale/nominal/ordinal).

All motivation items, leisure involvement items, and place attachment items were labelled. For example, 'MT_SOC1' was named on the social factor of the VFI, "My friends volunteer". Also, 'MT_LEIS1' was named on the leisure motivation item, "Volunteering is for me a form of having fun". As such, 'INV_AT1' was put on the attraction dimension item of the leisure involvement, "Visiting this place is very important to me", or 'PA_PI1' was coded on the place attachment item of "Volunteering at this place is meaningful to me". These items were five-point Likert-Scale, in which each variable was coded in 1 = "Strongly disagree", 2 = "Tend to disagree", 3 = "Neither agree nor disagree", 4 = "Tend to agree", 5 = "Strongly agree", or 6 = "Not Applicable".

Socio-demographic variables and previous experience were also coded and re-coded as following examples (Table 7).

Table 7: Examples of coding and re-coding for socio-demographics and previous experience

Gender		Code	New code	
	Female	1		
	Male	2		
Age				
	18 - 24 years old	1		
	25 - 34 years old	2		
	35 - 49 years old	3		
	50 - 64 years old	4		
	Over 65 years old	5		
Education				
	Intermediate school	1	Secondary	1
	College or high school	2		
	Diploma or Certificate	3	Tertiary	2
	Bachelor's	4		
	Postgraduate Diploma or Certificate	5	Postgraduate	3
	Masters	6		

PhD or MD	7		
Household income (NZ\$)			
0 - \$20,000	1		
\$20,001 - \$35,000	2	0 - \$50,000	1
\$35,001 - \$50,000	3		
\$50,001 - \$80,000	4	\$50,001-\$100,000	2
\$80,001 - \$100,000	5		
\$100,001 - \$150,000	6		
\$150,001 - \$200,000	7	Over \$100,001	3
Over \$200,001	8		
Volunteer experience			
This is my first time	1		
under a year	2	Inexperience	1
1 -3 years	3		
4 - 6 years	4		
7 -9 years	5	Experience	2
over 10 years	5		
Volunteer frequency			
Occasionally	1		
Annually	2	Episodic	1
Quarterly	3		
Monthly	4		
Weekly	5	Ongoing	2
Other	6		

All data from this research were numerical data. The *label* corresponded to the item describing sentence as reported in the survey instrument (see Table 3 to Table 5). System missing was applied if participant did not answer the question, and user missing was defined if the participant chose Not Applicable (N/A) by coding “9” for the coding of *missing data*. In the *measure* column, the *nominal* was coded for socio-demographic questions such as gender, education, and multiple-choice questions. Also *ordinal* was assigned to motivational questions, leisure involvement and place attachment items.

Missing values may lead inaccurate inference without proper handling. As some volunteers were already retired, career motivation items were often chosen as ‘Not Applicant’. In addition, as the objectives of this study include to identify the motivational components and experiences of environmental volunteers, it is useful in this exploratory study if one of the sections is completed. Also, SPSS provides some statistical techniques to estimate missing values such as maximum likelihood

estimation and list-wise or pare-wise deletion. Therefore, in this study some missing values were accepted in the data set.

3.9.2 Statistical methods.

The data collected from the survey was statistically analysed by combination approaches as set out in Table 8.

Table 8: Statistical approaches in this study

Purpose/Object	Statistical method
To describe the sample	Descriptive statistics: frequency distribution
To describe the differences of participants in terms of socio-demographics	Cross-tabulation analysis of socio-demographics
To investigate the level of motivation in general	Descriptive statistics: the mean of motivational items
To identify factors of motivation	Principal Axis Factor analysis with Promax rotation on the 35-Likert type motivational items
To find out differences of factors of motivation between episodic and ongoing volunteers	Independent-samples t-test
To investigate the level of leisure involvement in general	Descriptive statistics: the mean of leisure involvement items
To find out differences of leisure involvement between episodic and ongoing volunteers	Independent-samples t-test
To investigate the level of place attachment in general	Descriptive statistics: the mean of leisure involvement items
To find out differences of place attachment between episodic and ongoing volunteers	Independent-samples t-test
To confirm the structure of motivation, leisure involvement, and place attachment	Confirmatory factor analysis separately on motivation items, leisure involvement items, and place attachment items
To test the Volunteer Process Model	Structural equation modelling with maximum likelihood estimate
To find out differences of total volunteering experience between episodic volunteers and ongoing volunteers	Multi-group analysis of the structural equation model

Descriptive statistics are used to summarise large amount of information of the sample (Hanneman, Kposowa & Riddle, 2013; Kremelberg, 2011). As Leech, Barrett and

Morgan (2011) stated, frequency analysis is often used to describe the distribution of the sample if the data are nominal and categorical such as socio-demographics. On the other hand, “ranked” ordinal data can be summarised in an average as a central tendency (leach et al., 2011). Therefore, socio-demographics were addressed by frequency analysis, and Likert type scales of motivation items, leisure involvement items, and place attachment items were analysed by mean ranking.

The cross-tabulation analysis is useful to establish if there are differences or relationships between two groups (Hanneman et al., 2013). Chi-square (X^2) tests were used to find out statistical differences between categories defined by socio-demographics as shown in Table 7.

Independent-samples *t-test* is used to examine whether there are differences between two groups on particular attribute (Finn et al., 2000). In this study, it was tested that there were statistical differences between episodic volunteers who had participated in volunteering less frequently than annually and ongoing volunteers who had participated in volunteering more frequently than quarterly on motivations, leisure involvement, and place attachment scales.

Factor analysis is a method to reduce a large number of variables to a smaller number of factors or latent variables, which has two different ways; confirmatory factor analysis (CFA) and exploratory factor analysis (EFA) (Brown, 2015; Kremelberg, 2011). As Thompson (2004) states, the CFA is to be conducted when the researcher has specific expectations of “(a) the number of factors, (b) which variables reflect given factors, and (c) whether the factors are correlated” (p. 6). Therefore, the CFA is theory driven (Schreiber et al., 2006). In other words, the CFA is a method to “verify the number of underlying dimensions of the instrument (*factors*) and the pattern of item-factor relationships (*factor loading*)” (Brown, 2015, p. 1). On the other hand, the EFA is more descriptive and exploratory procedure (Brown, 2015). As such, statistically the EFA admits factor loading across other factors to find higher loading, whereas the CFA admits factor loading to only a specific factor to find out whether it is high enough.

While the VFI in volunteerism were often confirmed to have six factors and their constructs, it is uncertain that the scales including leisure/tourism motivations still have the same functionality as the VFI in environmental volunteer settings. In addition,

Gerbing and Hamilton (1996) note that “exploratory factor analysis can contribute to a useful heuristic strategy for model specification prior to cross-validation with confirmatory factor analysis” (p.62). Therefore, at the first step, exploratory factor analysis (EFA) was conducted to identify the factors of motivations of environmental volunteers.

Principal axis factoring as one of the methods of EFA is commonly used when the researcher has assumption of underlying latent factors rather than components constructed by linear combination of items (Gaur & Gaur, 2009; Pett, Lackey & Sullivan, 2003). Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s Test of Sphericity were tested to valid the sample size. KMO indicates the extent to which patterns of correlations of variables in the sample are compressed enough to yield distinct and reliable factors (Budaev, 2010). It is adequate sample size if the KMO is at least over .50 (Field, 2005). Bartlett’s Test is to test whether the variances of items are not equal, that is, whether distribution of the data is normal distribution (Budaev, 2010). Bartlett’s test should be performed in less than .05 significant level (Field, 2005). To determine the number of factors, Kaiser’s criteria (eigenvalue >1) as well as the factor loading (>.50) and Cronbach’s α (>.70) were used for the thresholds (Kremelberg, 2011).

Confirmatory factor analyses (CFA) were performed on motivation factors derived from the EFA, the leisure involvement measurement, and the place attachment measurement to test whether constructs of the factors were statistically valid and reliable. Reliability is the extent to which observable variables are free from errors and therefore consistent in results, which can be assessed by composite reliability (CR) (Bagozzi & Yi, 2012; Brown, 2015). There is no consensus for the thresholds of the composite reliability, however, it can be above .70 in exploratory research (Nunkoo, et al., 2013). The average variance extracted (AVE) is often used to examine the convergent validity which account for how much the latent variable is explained by observable variables (Nunkoo, Ramkisson & Gursoy, 2013). While there is also no exact criteria for the AVE, it is often accepted if it is greater than .50 which accounts for more than half of the latent variable (Bagozzi & Yi, 2012).

According to Byrne (2010), a structural equation model (SEM) is “a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the

analysis of a structural theory bearing on some phenomenon" (p.3), which can contain both latent and observable variables. Also, Nunkoo et al., (2012) noted that SEM has become popular in social science including tourism as it is useful to test and examine the real phenomenon without conducting experiments. In this study, the relationships between motivations, leisure involvement, and place attachment were hypothesised to test based on the VPM.

As Byrne (2010) noted, "evaluation of model fit should derive from a variety of perspectives and be based on several criteria that assess model fit from a diversity of perspectives" (pp. 66-67), for example, Chi-square (X^2), Chi-square divided by degree of freedom (X^2/df), Root mean square error of approximation (RMSEA), and Comparative fit index (CFI).

While the SEM is more of confirmatory and theory driven, "it is also can be used for exploratory purposes" (Schreiber et al., 2006, p. 325). In addition, Asparouhov and Muthen (2009) noted that the procedures of exploratory factor analysis can be applied in structural equation modelling to reduce misspecification. Therefore, to address the study objectives, a modified model of the VPM to be tested was proposed after specification procedures of exploratory and confirmatory factor analysis of motivation items.

To identify the difference of total volunteer experiences between episodic and ongoing volunteers, a multi-group analysis was conducted. The comparisons were made pairwise on the same path between ongoing and episodic volunteer models by using z-statistic that is often used to compare regression coefficient (Paternoster, Brame, Mazerolle & Piquero, 1998).

3.10 Limitations

As some scholars mentioned, the VPM explain the process of volunteer experiences which contains both a temporal and dynamic component (Davila, 2009; Penner, 2004). With this in mind, longitudinal research is suitable to identify the whole process of the volunteer experience. However, due to the time constraint, this research was conducted in one point of the last stage of the processes which was straight after volunteering. This may limit the consequence stage of volunteer experience.

Due to the limited space of the survey design and the wish not to overload participants with too many questions the survey was limited to fixed number of questions. Tourist motivations are not homogeneous and also they are dynamic (Luo & Deng, 2008). This study adopted mainly volunteerism motivations. However, as seen in Chapter three, volunteer tourism has affected from various subjects, for example serious leisure perspectives. Other motivational items as well as involvement and place attachment scales also could be investigated.

This study included domestic and international tourists, and local day trippers. However, the numbers of participants in each category were not evenly distributed. As mentioned previously, the threshold distinguishing between domestic tourists and local day-trippers is hard to clarify. As the islands locate sparsely within the Hauraki Gulf, origin of participants could not represent whether they are tourists or day-trippers in terms of distance from home environment. On the other hand, international volunteers clearly contain tourism elements. Therefore, in this study, the origin of participants was classified into two; international tourists and domestic day-trippers. This limits the findings regards domestic tourists.

3.11 Summation

This chapter discussed about the methodologies to achieve objectives of this study, which was to understand characteristics of environmental volunteers and examine a theoretical platform focussing the experiences and consequences utilising an interdisciplinary approach. To achieve this purpose, quantitative approach standing on positivism paradigm was utilised, in which environmental volunteering play an important role for both tourism and volunteerism sector in the Hauraki Gulf New Zealand.

A hypothetical framework was established from previous chapter. Also a research instrument was developed through relevant literature and professionals as well as a pilot study, which increased validity and reliability of the research instrument. The purposive sampling was adopted to collect a target of 400 responses from environmental volunteers on islands in Hauraki Gulf. Administration of the research and methods of data analysis were also presented. At the end, limitations of this study were discussed such as restraints of question numbers or time of one-off research.

Chapter Four: Results and Findings

4.1 Introduction

This chapter explores the results and findings generated to achieve the purpose of this study; that is, to identify characteristics of environmental volunteers in terms of motivations and socio-demographics, and understand the structure of volunteer experience processes by applying volunteerism, leisure and tourism discourses. To address the purpose, this chapter includes: 1) frequency analysis and cross tabulation analysis of socio-demographics; 2) descriptive analysis of motivation, leisure involvement, and place attachment items with comparisons of episodic/ongoing differences and leisure/tourist differences; 3) factor analyses of motivation, leisure involvement, and place attachment; 4) structural equation modelling; and 5) summary of the results and findings in this chapter.

While a total number of 396 responses were collected from the combination of an on-site survey and an on-line survey, some missing values were included in the data set. Only the valid number is used to describe the characteristics of participants, therefore the response number differs for each question.

4.2 Socio-demographics and previous volunteer experiences of participants

4.2.1 Socio-demographics of participants.

To understand the socio-demographic characteristics of participants, frequency analyses were performed. As seen in Table 9, the participants of this study were female (61.6%, n=241) and male (38.4%, n=150). This result reflected the New Zealand trend that females are more likely to participate in volunteering than males. The study setting contains a pristine natural environment, which females often prefer as a destination, as seen in the ecotourism sector.

Table 9: Socio-demographics of the sample.

Gender	n	Valid percent
Female	241	61.6
Male	150	38.4
Total	391	100.0

Age	n	Valid percent
18 - 24 years old	97	24.8
25 - 34 years old	91	23.3

35 - 49 years old	88	22.5
50 - 64 years old	80	20.5
Over 65 years old	35	9.0
Total	391	100.0

Ethnicity	n	Valid percent
NZ European	202	51.5
Maori	6	1.5
Asian	82	20.9
Pacific Islander	2	.5
Middle Eastern	1	.3
African	2	.5
European	54	13.8
Other	43	11.0
Total	392	100.0

Living area	n	Valid percent
Auckland	322	82.1
Outside of Auckland but in New Zealand	16	4.1
Overseas	54	13.8
Total	392	100.0

Education	n	Valid percent
Secondary	104	26.6
Tertiary	169	43.2
Postgraduate	118	30.2
Total	391	100.0

Work situation	n	Valid percent
Part-time employment	35	9.0
Full-time employment	176	45.0
Self-employment	32	8.2
Unemployed	24	6.1
Student	83	21.2
Homemaker	11	2.8
Retired	25	6.4
Other	5	1.3
Total	391	100.0

Household income (NZ\$)	n	Valid percent
0 - \$50,000	138	38.6
\$50,001 - \$100,000	120	33.5
Over \$100,001	100	27.9
Total	358	100.0

Median of household income in	\$50,001-\$80,00
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Regarding the age group, environmental volunteering was more popular in young volunteers. The age group of 18 -24 years old was the largest age group (24.8%, n=97), followed by the age group of 25 -34 years old (23.3%, n=91), the age group of 35-49 years old (22.5%, n=88), and the age group of 50-64 years old (20.5%, n=80). The smallest age group was the over 65 years old (9.0%, n=35). This may be related to the tasks of environmental volunteering which require a certain fitness level, such as carrying plants or digging on a hilly field, which is more suitable for younger and fit people. With this in mind, environmental volunteering on these islands appeared to be more popular with the younger volunteers and may be challenging to older female participants.

In terms of the ethnicity, more than half of participants were New Zealand European (51.5%, n=202). The second largest group was Asian (20.9%, n=82), followed by European (13.8%, n=54) and 'Others' (11.0%, n=43) including mostly American. Maori (1.5%, n=6), Pacific Islander (0.5%, n=2), Middle Eastern (0.3%, n=1), African (0.5%, n=2) were marginal. As the study settings were close to Auckland central, where New Zealand European and Asian populations are dominant, the study participants partly reflected Auckland's cultural makeup. As the sample of this study included international tourists, 'Others' were relatively a large number.

Most of the participants were living in Auckland (82.1%, n=322), however, some were from overseas (11.8%, n=54) and outside of Auckland but in New Zealand (4.1%, n=16). It can be said that most participants of this study were local volunteers who live near the volunteer destination, which they can access relatively easily. From the leisure/tourism perspectives, most participants were day-trippers, with fewer tourists.

With regard to educational level, a tertiary degree was the most prominent (43.2%, n=169). The level of postgraduate degree holders was slightly higher than for secondary school qualification holders. As the participants of this study included students who had not finished their degree, the proportion of secondary school qualification holders will be less after they complete tertiary degrees. This result suggests that those who have tertiary degrees or higher tend to engage in volunteering more than secondary school qualification achievers.

The working status of the participants varied. Full-time employment was the most common (45%, n=176), followed by other employment types (part-time, 9.0%; n=35, self-employment, 8.2%; n=32). In terms of those not in paid employment, the student category dominated 21.2% (n=83), followed by those identifying as retired (6.4%, n=25), unemployed (6.1%, n=24), homemaker (2.8%, n=11), and other (1.3%, n=5). Over 60 per cent of participants were working and had resources to gain income. Also, it can be said that most participants had some obligations in their daily life such as jobs, studies, or homemaking. Thus, volunteering can be an activity in which participants can be temporarily free from these duties.

The main household annual income ranges were 0-NZ\$50,000 (38.6%, n=138), followed by NZ\$50,001-NZ\$100,000 (33.5%, n=120) over NZ\$100,001 (27.9%, n=100). The median household income in this study was in the range of NZ\$50,001-NZ\$80,000. The result of household income indicated that lower income earners tend to engage in environmental volunteering more than higher income earners. This may be because of the low skill requirements of environmental volunteering which does not need any specialist skills or knowledge to participate; in turn there are low financial costs, as volunteers can get 20 per cent discount on their ferry fare.

4.2.2 Previous volunteer experiences.

Table 10 summarises the previous volunteer experiences of the sample in terms of the location of volunteering, volunteering career, frequency of volunteering, and duration of the last volunteering.

Approximately half of the sample had volunteered at Motutapu Island (50.3%, n=196), and 29.3% at Motuihe Island (n=115). Around eight percent of participants (n=31) did their volunteering at Motuora/Tiritiri Matangi Island. Only 4.6 per cent were at Waiheke Island or Kaitoki area. Motutapu and Motuihe Island are easily accessible by ferry from Auckland city, and both volunteer organisations have relatively available budgets for publicity strategies such as leaflets, websites, or Facebook. Therefore, these destinations were well known. On the other hand, Motuora/Tiritiri Matangi Island are relatively far from Auckland and hard to access in terms of time and cost. In addition, as the stage of the restoration programmes differs from other islands, the maintenance of these island is the main job for volunteers, and therefore, the number of volunteers required is relatively less than other islands. Also volunteering on

Waiheke Island is organised by a smaller community in a smaller reserve with less of a budget, therefore, not many volunteers are required.

Table 10: Participants' previous experience of volunteering

Location of volunteering	n	Valid Percent
Waiheke Island	18	4.6
Motutapu Island	196	50.3
Motuihe Island	115	29.5
Motuora/Tiritiri Matangi Island	31	7.9
Kaitoki area	18	4.6
Other	12	3.1
Total	390	100.0
How long have you participated in environmental volunteering?	n	Valid Percent
This is my first time	184	47.3
under a year	31	8.0
1 -3 years	50	12.9
4 - 6 years	43	11.1
7 -9 years	20	5.1
over 10 years	61	15.7
Total	389	100.0
How often do you participate in environmental volunteering?	n	Valid Percent
Occasionally	161	42.8
Annually	76	20.2
Quarterly	50	13.3
Monthly	45	12.0
Weekly	23	6.1
Other	21	5.6
Total	376	100.0
How long was the duration of volunteering you participated in last time?	n	Valid Percent
Half a day	112	30.1
A whole day	194	52.2
2-3 days	10	2.7
Less than one week	12	3.2
2 -3 weeks	39	10.5
1 -3 months	1	.3
More than 4 months	4	1.1
Total	372	100.0

More than half of participants had taken part in environmental volunteering for less than one year (first time: 47.3%, n=184; under a year: 8.0%, n=31), however, 15.7 per cent (n=61) of participants had engaged in environmental volunteering for more than

ten years. Those who had volunteered for one year to nine years accounted for around 30 per cent of participants (1-3 years: 12.9%, n=50; 4-6 years: 11.1%, n=43; 7-9 Years: 5.1%, n=20). Therefore, the structure of environmental volunteer experiences is a pyramid shape, in which experts in environmental volunteering are considerably less.

With regards to the frequency of environmental volunteering, over 40 per cent (n=161) of participants engaged occasionally, and 20 per cent (n=76) were annual participants. The frequency of volunteering may include participants' estimates of prospective participation or misunderstanding of the question. Therefore, the number 'occasionally' was not consistent with the 'first time' participants regarding previous experience. Around 30 per cent of volunteers frequently participated in environmental volunteering (quarterly: 13.3%, n=50; monthly: 12.0%, n=45; weekly: 6.1%, n=23). From a volunteerism perspective, it can be said that around 60 per cent of participants were episodic volunteers who participate in volunteering less frequently than annually, and 40 per cent were ongoing volunteers who participate in volunteering more frequently than quarterly.

The duration of volunteering last time was mostly less than one day (half day: 30.1%, n=112; a whole day: 52.2%, n=194). Around 10 per cent of participants engaged in a two to three weeks project of volunteering (n=39). Only a few per cent of the sample participated in projects for less than one week (2-3 days: 2.7%, n=10; less than one week: 3.2%, n=12). From a tourism perspective, most participants had a day trip for the volunteering; however, some were tourists who travelled far from their home environments to participate in environmental volunteering.

4.2.3 Types of volunteer work and parties.

Table 11 shows the types of volunteer work participants engaged in. While tasks were assigned by the volunteer organisers based on seasonal or capacity reasons, participants also can choose tasks if they prefer other tasks. This question was delivered in the form of a multiple choice question. Most of participants engaged in the task of planting (61.4%, n=243) and/or weeding (19.2%, n=76). Nursery work was also popular (14.9%, n=59). Other types of tasks were relatively engaged in by fewer volunteers: monitoring (5.8%, n=23), pest control (5.6%, n=22), track maintenance (4.8%, n=19), and nesting (2.0%, n=8). In sum, planting, weeding, and nursery work were usually conducted by volunteers, which requires relatively few skills or previous

knowledge. However, monitoring, pest control, track maintenance, and nesting work were specific types of volunteer work.

Table 11: Tasks of environmental volunteers

Tasks of volunteer	n	Percent
Nursery	59	14.9
Weeding	76	19.2
Planting	243	61.4
Pest control	22	5.6
Nesting	8	2.0
Track maintenance	19	4.8
Monitoring	23	5.8
Other	56	14.1

As seen in Table 12, most of volunteers participated in volunteering with other people, including friends (34.1%, n=135), family members (17.7%, n=70), colleagues (15.7%, n=62), and others (13.9%, n=55). On the other hand, only 12.9% of the participants were individual participants. It seems that environmental volunteering is an important socialising tools with family members and colleagues.

Table 12: Types of participation party

Participation parties	n	Percent
By myself	51	12.9
With family members	70	17.7
With friends	135	34.1
With colleagues	62	15.7
Others	55	13.9

Summarising the characteristics of the participants, it can be stated that:

- The majority were female, mostly aged under 64 years, and New Zealand Europeans or Asians from Auckland;
- They were mostly full-time workers or students with a Bachelor's degree or higher;
- Low income earners (less than \$NZ50,000) were slightly more numerous than high income earners (over \$NZ100,001);
- Most of their environmental volunteering experiences were gained on Motutapu Island or Motuihe Island;

- More than half of them had less than one year's experience and were not regular participants;
- The majority of the volunteers engaged in tree planting or nursery work within a whole day;
- Most of the volunteers participated with other people, mainly friends or family members.

These results suggest that the environmental volunteers in the Hauraki Gulf area were not homogeneous but have some specific characteristics of gender, age, education, and income. Their volunteer experiences were also regional or international, episodic or ongoing, short or long, and by themselves or with other participants.

4.3 Cross tabulation

In the previous section, it was noted that environmental volunteering on the islands is more popular with younger generations. To explore further characteristics of the different age groups, this section focuses on cross tabulations between age group and gender, origin of participants (living area of participants), frequency of volunteering, and the length of volunteer experience. The living area was re-coded into two categories; domestic (living in Auckland and New Zealand: 86.2%, n=338), and international (living overseas: 13.8%, n=54). This is due to the ambiguity between domestic tourists and day-trippers, and clarity between domestic and international tourists. Therefore, from the leisure/tourism perspective, participants were classified into domestic volunteers and international volunteers. Also, from the volunteerism perspective, the frequency of volunteering was re-coded into two categories; episodic volunteer (less frequently than annual: 62.9%, n=237), and ongoing volunteer (more frequently than quarterly: 37.1%, n=140). Volunteer experience was divided into inexperienced (less than one year) and experienced (more than one year).

4.3.1 Differences of the age group.

While significant differences between the age and gender were not found ($\chi^2=2.519$, $df=4$, N.S.), it seemed that younger generations were more female dominant and older generations were male dominant. For example, female dominated 66.0 per cent of participants in the age group of 18-24 years old; however, in the over 65 years old group, male and female numbers were almost equal. This may be partly because

environmental volunteering on the islands needs a certain fitness level, so that males are more able to carry on doing tasks than females especially in the older generation.

Table 13: Cross tabulations of age by gender, origin of participants, frequency of volunteering, and volunteer experience

Gender									
Age	Female		Male		Total		X ²	Df	p
18 - 24 years old	66.0%	(64)	34.0%	(33)	100.0%	(97)	2.519	4	.641
25 - 34 years old	63.3%	(57)	36.7%	(33)	100.0%	(90)			
35 - 49 years old	61.4%	(54)	38.6%	(34)	100.0%	(88)			
50 - 64 years old	60.0%	(48)	40.0%	(32)	100.0%	(80)			
Over 65 years old	51.4%	(18)	48.6%	(17)	100.0%	(35)			
	61.8%	(241)	38.2%	(149)	100.0%	(390)			

Origin									
Age	Domestic		International		Total		X ²	Df	p
18 - 24 years old	50.5%	(49)	49.5%	(48)	100.0%	(97)	139.57	4	***
25 - 34 years old	95.6%	(87)	4.4%	(4)	100.0%	(91)			
35 - 49 years old	98.9%	(87)	1.1%	(1)	100.0%	(88)			
50 - 64 years old	98.8%	(79)	1.3%	(1)	100.0%	(80)			
Over 65 years old	100.0%	(35)	0.0%	(0)	100.0%	(35)			
	86.2%	(337)	13.8%	(54)	100.0%	(391)			

Income									
Age	0-NZ\$50,000		NZ\$50,001-NZ\$100,000		Over \$NZ100,001		Total		
18 - 24 years old	72.2%	(65)	13.3%	(12)	14.4%	(13)	100.0%	(90)	
25 - 34 years old	32.1%	(27)	42.9%	(36)	25.0%	(21)	100.0%	(84)	
35 - 49 years old	19.0%	(15)	48.1%	(38)	32.9%	(26)	100.0%	(79)	
50 - 64 years old	20.0%	(15)	34.7%	(26)	45.3%	(34)	100.0%	(75)	
Over 65 years old	51.7%	(15)	27.6%	(8)	20.7%	(6)	100.0%	(29)	
	38.4%	(137)	33.6%	(120)	28.0%	(100)	100.0%	(357)	

X²=77.272, df=7, p.<001

Frequency									
Age	Episodic		Ongoing		Total		X ²	Df	p
18 - 24 years old	71.4%	(65)	28.6%	(26)	100.0%	(91)	13.678	4	**
25 - 34 years old	66.3%	(59)	33.7%	(30)	100.0%	(89)			
35 - 49 years old	67.1%	(55)	32.9%	(27)	100.0%	(82)			
50 - 64 years old	57.7%	(45)	42.3%	(33)	100.0%	(78)			
Over 65 years old	37.5%	(12)	62.5%	(20)	100.0%	(32)			
	63.4%	(236)	36.6%	(136)	100.0%	(372)			

Volunteer experience									
Age	Inexperienced		Experienced		Total		X ²	Df	p
18 - 24 years old	78.4%	(76)	21.6%	(21)	100.0%	(97)	59.251	4	***
25 - 34 years old	66.7%	(60)	33.3%	(30)	100.0%	(90)			

35 - 49 years old	52.9%	(46)	47.1%	(41)	100.0%	(87)
50 - 64 years old	30.8%	(24)	69.2%	(54)	100.0%	(78)
Over 65 years old	21.9%	(7)	78.1%	(25)	100.0%	(32)
	55.5%	(213)	44.5%	(171)	100.0%	(384)

Note: All significant levels are two-tailed. ** $p < .01$, *** $p < .001$

The result of cross tabulation between the age group and origin of participant revealed that international volunteers were significantly more represented in the age group of 18-24 years, compared to in other age groups ($X^2=139.57$, $df=4$, $p<.001$). This result suggests that young international volunteers feel it is more interesting or worthy to participate in environmental volunteering in a foreign country than domestic volunteers do in their own country. In other words, while environmental volunteering itself is not popular among people aged 18-24 years old, it becomes more attractive for them when it includes oversea experiences.

The result of the cross tabulation between age group and frequency of volunteering was significantly related ($X^2=13.678$, $df=4$, $p<.01$), in which younger generations are more likely to be episodic volunteers and older generations are more dominant among ongoing volunteers. Specifically, volunteers over 50 years old tend to become ongoing volunteers.

The relationship between the age group and household income was strongly significant ($X^2=77.272$, $df=7$, $p<.001$). For example, about 72% of the age group of 18-24 years earned less than NZ\$50,000, and around 15% of them earned over NZ\$100,001. On the other hand, while 20% of the age group of 50-64 years old earned less than NZ\$50,000, nearly half of them earned over NZ\$100,001.

The cross tabulation between the age group and the length of volunteer experience also indicated a significant relationship ($X^2=59.251$, $df=4$, $p<.001$). The ratio of the inexperienced to experienced gradually declined with age; on the other hand, the ratio of experienced to inexperienced gradually increased with age. This result suggested that the length of environmental volunteering could be directly proportional to age.

From the above results, environmental volunteering on the islands is popular with young females but more so for international volunteers as well as older male volunteers. In addition, younger generations are likely to be episodic and

inexperienced volunteers; on the other hand, older generations tend to be ongoing and experienced volunteers. Therefore, age plays an important role in environmental volunteering.

4.3.2 Relationship between household income and education level.

Table 14 presents the relationship between household income and education level. Generally, education level is significantly related to household income ($X^2=13.539$, $df=4$, $p<.01$). That is, those who achieved higher education levels tended to earn a higher house-hold income.

Table 14: Cross tabulations between household income and education level

Income	Secondary		Tertiary		Postgraduate		Total	
0-NZ\$50,000	30.4%	42	49.3%	68	20.3%	28	100.0%	138
NZ\$50,001- NZ\$100,000	22.5%	27	41.7%	50	35.8%	43	100.0%	120
Over NZ\$100,001	21.0%	21	38.0%	38	41.0%	41	100.0%	100
	25.1%	90	43.6%	156	31.3%	112	100.0%	358

$X^2 (4) = 13.539$, $p < .01$

4.3.3 Difference between locations.

In order to identify the relationship between locations volunteered at and the length of volunteer experience, cross tabulations were examined. Table 15 shows the relationship between the location and the frequency/length of volunteering.

Table 15: Relationship between locations and previous volunteer experience

Location	Frequency of volunteering			X ²	P
	Episodic	Ongoing	Total		
Waiheke Island	56.3% (9)	43.8% (7)	100.0% (16)	24.253	.000***
Motutapu Island	68.1% (128)	31.9% (60)	100.0% (188)		
Motuihe Island	67.6% (73)	32.4% (35)	100.0% (108)		
Motuora/Tiritiri Matangi Island	31.0% (9)	69.0% (20)	100.0% (29)		
Kaitoki area	72.2% (13)	27.8% (5)	100.0% (18)		
Other	25.0% (3)	75.0% (9)	100.0% (12)		
Location	Volunteer experience			X ²	P
	Inexperienced	Experienced	Total		
Waiheke Island	76.5% (13)	23.5% (4)	100.0% (17)	42.411	.000***
Motutapu Island	58.8% (114)	41.2% (80)	100.0% (194)		
Motuihe Island	60.9% (70)	39.1% (45)	100.0% (115)		
Motuora/Tiritiri Matangi Island	3.4% (1)	96.6% (28)	100.0% (29)		
Kaitoki area	66.7% (12)	33.3% (6)	100.0% (18)		
Other	25.0% (3)	75.0% (9)	100.0% (12)		

Regarding the frequency of volunteering, on Motutapu and Motuihe Island, and in the Kaitoki area, more than two-third of volunteers participated in environmental volunteering episodically, while on Motuora/Tiritiri Matangi Island, around 70% of volunteers were ongoing volunteers. Also, on Motutapu Island and Motuihe Island, around 60% of volunteers were inexperienced volunteers, whereas most volunteers on Motuora/Tiritiri Matangi Island were experienced volunteers. These differences are probably because of the accessibility of the island, availability of volunteers, and the different progress of the restoration programmes. Due to the reforestation stage of the programme, Motutapu and Motuihe Island need more planting volunteers, who are available from Auckland. On the other hand, Motuora/Tiritiri Matangi Islands are in maintenance, where specific skills and knowledge are required. Therefore, experienced and ongoing volunteers are needed.

4.4 Descriptive analyses of motivation items

4.4.1 Motivation items.

To describe the importance of motivations for volunteers, the 35-Likert type scales were examined (Table 16). All Likert type scales contained 1 = 'Strongly disagree' to 5 = 'Strongly agree' options. 'Not applicable' was dealt with as a missing value.

Table 16: Descriptive statistics of motivational items

Descriptive Statistics of motivation items					
Code	Items	M	N	SD	
MT_VLU4	I feel it is important to help to improve natural environments.	4.62	(386)	.60	
MT_VLU1	I am concerned about damage to the natural environment.	4.53	(387)	.70	
MT_LEIS2	Volunteering gives me an opportunity to enjoy a day-out.	4.50	(389)	.63	
MT_VLU3	I have compassion for the health of the environment.	4.50	(389)	.67	
MT_VLU5	I can do something good for nature that is important to me.	4.46	(385)	.64	
MT_UST4	I can deepen my understanding of eco-systems that supports plants and animals.	4.38	(395)	.78	
MT_UST3	Volunteering lets me learn through direct hands-on experience.	4.36	(392)	.78	
MT_LEIS1	Volunteering is for me a form of having fun.	4.36	(392)	.76	
MT_LEIS5	Volunteering helps me keep fit.	4.22	(392)	.77	
MT_EST3	Volunteering makes me feel better about myself.	4.17	(385)	.78	
MT_UST1	I can learn more about the cause for which I am interested.	4.14	(386)	.83	
MT_EST4	Volunteering is a way to make new friends.	4.10	(389)	.85	
MT_VLU2	I am genuinely concerned about the location I am volunteering in.	4.09	(386)	.89	
MT_SOC5	People I know share an interest in environmental activities.	4.06	(388)	.91	
MT_LEIS3	Volunteering gives me an opportunity to work with my friends or family members.	4.03	(390)	1.01	

MT_UST2	Volunteering allows me to gain a new perspective on things.	4.02	(388)	.85
MT_LEIS4	Volunteering makes me feel relaxed.	3.94	(388)	.86
MT_UST5	I can explore my own strengths and weaknesses.	3.89	(386)	.92
MT_SOC2	My friends and family enjoy volunteering.	3.80	(393)	1.04
MT_EST2	Volunteering increases my self-esteem.	3.78	(385)	.92
MT_EST5	Volunteering makes me feel needed.	3.70	(387)	.96
MT_CAR5	Volunteering will look good on my resume.	3.68	(370)	1.13
MT_SOC4	My friends place a high value on environmental volunteering.	3.62	(390)	1.11
MT_SOC3	People I'm close to volunteer.	3.60	(389)	1.10
MT_EST1	Volunteering makes me feel important.	3.52	(380)	1.02
MT_CAR1	My volunteer experience will help me improve skills at work.	3.43	(357)	1.13
MT_SOC1	Volunteering is an important activity for the people I know best	3.42	(389)	1.04
MT_PRO4	No matter how bad I've been feeling, volunteering helps me to forget about it.	3.36	(383)	1.09
MT_CAR2	I can make new contacts that might benefit my business or career.	3.30	(369)	1.18
MT_PRO1	I feel volunteering relieves me of the guilt caused by humans destroying nature.	3.25	(377)	1.14
MT_PRO3	Volunteering is a good escape from my own troubles.	3.20	(381)	1.13
MT_CAR4	Volunteering will help me succeed in my chosen profession.	3.10	(359)	1.19
MT_PRO5	By volunteering I feel less lonely.	3.05	(382)	1.13
MT_CAR3	Volunteering allows me to explore different career options.	3.02	(359)	1.11
MT_PRO2	Volunteering helps me work through my own personal problems.	2.84	(377)	1.07

The most important reason for the participation in environmental volunteering was 'to help to improve natural environment' ($M=4.62$, $SD=.60$), followed by 'I'm concerned about damage to the natural environment' ($M=4.53$, $SD=.70$). Both items underpin the *values* items from the VFI scales. Also one of the leisure motivations, 'Volunteering gives me an opportunity to enjoy a day out, was recognised as an important reason ($M=4.50$, $SD=.63$). Learning opportunities were also an important motivation for volunteering, such as 'deepen my understanding' ($M=4.38$, $SD=.78$). Generally, environmental volunteers considered environmental issues that encourage them to learn or understand the environment, in turn, to participate in volunteering; however, with egoistic motivations for leisure opportunities.

On the other hand, some *protective* items from the VFI, 'By volunteering I feel less lonely' ($M=3.05$, $SD=1.13$) or 'Volunteering helps me work through my own personal problems' ($M=2.84$, $SD=1.07$), were less important for the participants. Therefore, participants did not expect that they can escape from negative feelings or things of daily life by participating in environmental volunteering. This is probably because the settings of the volunteering were still too close to where they lived to forget their daily

life, or the duration was too short to do so. In addition, *career* items of the VFI scales such as 'Volunteering allows me to explore different career options' (M=3.10, SD=1.19) or 'Volunteering will help me succeed in my chosen profession' (M=3.02, SD= 1.11) were rated as being of low importance. As environmental volunteering does not require any skills or knowledge, participants might not perceive it as a good opportunity to enhance their career.

Some *self-enhancement* items and *social* items were rated in the middle. The item of 'Volunteering makes me feel better about me' (M=4.17, SD=.78) or 'Volunteering is a way to make new friends' (M=4.10, SD=.85) was a relatively important reason for environmental volunteering. Environmental volunteers expected to gain psychological benefits from volunteering. *Social* items such as 'People I know share an interest in environmental volunteering' (M=4.06, SD=.91) and 'My friends and family enjoy volunteering' (M=3.80, SD=1.04) were relatively less important for environmental volunteering.

In general, the *values* items and leisure items were very important reasons for the participation. The leaning items were ranked in relatively highly, and *self-enhancement* items and *social* items were rated of middle importance. The *career* and *protective* items were not very important for the environmental volunteers.

4.4.2 Factor analysis of volunteer motivation.

To address the study objective that is to identify the structure of motivations of environmental volunteers in the Hauraki Gulf, a factor analysis for motivation items was performed. The principal axis factoring method with Promax rotation was applied on the 35 motivational items. Principal axis factoring is commonly used when the researcher has an assumption of underlying latent factors that focus on common variance (correlation), rather than overt factors that are constructed by a linear combination of observed variables (Gaur & Gaur, 2009; Pett, Lackey & Sullivan, 2003). Also as these factors were assumed to correlate each other to a certain degree, the Promax rotation method was used.

As seen in Table 17, six factors were revealed, which account for 60.5% of the total variance (Kaiser-Meyer-Olkin (KMO) =.903, $X^2(595)=5296.83$, Bartlett's Test of Sphericity $p<.001$). KMO presented a significantly high convergence of factors

compared to the sample size. Bartlett's test indicated that the variance of the sample was a normal distribution. All eigenvalues of each factor were above 1.0, which means that the factor successfully represents an element more than is attributable to a single variable (Guar & Guar, 2009). Cronbach's Alpha were over 0.70, which suggests that the items have a strong consistency within the factor, to measure the same underlying construct (Guar & Guar, 2009). In exploratory factor analysis, factor loadings above 0.5 are regarded as being reasonably associated with the particular factors (Guar & Guar, 2009). These thresholds were reasonably high and used in other studies (e.g. Bruyere & Rappe, 2007; Mooi & Sarstedt, 2011).

Table 17: Principal axis factoring analysis with Promax rotation of motivation items

	Factor loading							
	1	2	3	4	5	6	M	(SD)
Values								
I feel it is important to help to improve natural environments.	.819						4.39	(.54)
I have compassion for the health of the environment.	.787							
I can do something good for nature that is important to me.	.759							
I am concerned about damage to the natural environment.	.726							
I can learn more about the cause for which I am interested.	.644							
I can deepen my understanding of eco-systems that supports plants and animals.	.612							
I am genuinely concerned about the location I am volunteering in.	.600							
Career								
Volunteering will help me succeed in my chosen profession.		.817					3.40	(.91)
My volunteer experience will help me improve skills at work.		.749						
Volunteering will look good on my resume.		.744						
I can make new contacts that might benefit my business or career.		.705						
Volunteering allows me to explore different career options.		.685						
I can explore my own strengths and weaknesses.*		.629				.562		
Enhancement								
Volunteering makes me feel important.			.817				3.86	(.73)
Volunteering makes me feel better about myself.			.812					
Volunteering increases my self-esteem.			.759					
Volunteering makes me feel needed.			.708					
Volunteering is a way to make new friends.			.606					
Protective								
Volunteering helps me work through my own personal problems.				.848			3.13	(.95)
Volunteering is a good escape from my own troubles.				.761				

By volunteering I feel less lonely.						.723	
No matter how bad I've been feeling, volunteering helps me to forget about it.*						.689	.535
I feel volunteering relieves me of the guilt caused by humans destroying nature.*					.514	.535	
Social							
Volunteering is an important activity for the people I know best						.746	3.75 (.75)
People I'm close to volunteer.						.676	
My friends and family enjoy volunteering.						.668	
People I know share an interest in environmental activities.						.619	
Volunteering gives me an opportunity to work with my friends or family members.						.606	
My friends place a high value on environmental volunteering.						.536	
Leisure							
Volunteering lets me learn through direct hands-on experience.*	.502	.578				.608	4.23 (.53)
Volunteering gives me an opportunity to enjoy a day-out.						.601	
Volunteering allows me to gain a new perspective on things.						.582	
Volunteering helps me keep fit.						.530	
Volunteering is for me a form of having fun.						.524	
Volunteering makes me feel relaxed.						.501	
Eigenvalues	10.3	3.31	2.68	2.00	1.51	1.39	
% of Variance	29.4	9.45	7.65	5.71	4.31	3.96	
Cronbach's Alpha	.862	.859	.861	.850	.818	.756	

Extraction Method: Principal Axis Factoring.

Rotation Method: Promax with Kaiser Normalization.

* Items loading on more than two factors were removed for further analysis.

The first factor was named *values of nature*, as it contained seven items such as 'I feel it is important to help to improve natural environments', 'I have compassion for the health of the environment', and 'I can learn more about the cause for which I am interested'. The first factor accounted for 29.44% of total variance. Most of these items were consistent with the values items in the VFI; however, also included some understanding items in the VFI. The factor of *values of nature* was the most important factor of environmental volunteering (M=4.39, SD=.54). This factor represents that participants have a deep compassion toward nature, pursue an understanding of nature, and have an active intention to help nature for their motivations.

The second factor was named *career*, containing statements such as 'Volunteering will help me succeed in my chosen profession', 'Volunteering will look good on my resume', 'I can explore my strengths and weaknesses', and others. This factor

explained 9.45% of total variance. The items in this factor were consistent with *career* items and an *understanding* item in the VFI. This result indicated that the *career* factor included the learning element for the participants' career, such as self-development. While the *career* factor constructed a strong factor of volunteer motivations, the importance of the career motivation was not very high ($M=3.40$, $SD=.91$).

The third factor was named *enhancement* and included five items which were the same as the VFI, which accounted for 7.65% of total variance. This factor contained statements such as 'Volunteering makes me feel important' or 'Volunteering makes me feel better about myself'. The *enhancement* factor represents positive expectations of participation in volunteering. This factor was rated in the middle comparing with other factors ($M=3.86$, $SD=.73$).

The fourth factor was labelled *protective* and included five items; for example, 'Volunteering helps me work through my own personal problems', 'Volunteering is a good escape from my own trouble', and 'By volunteering I feel less lonely'. These items were exactly the same items in the protective factor of the VFI. This factor explained 5.71% of total covariance. The *protective* factor represents escapism from the negative feelings about daily life. However, this factor was rated in the lowest range ($M=3.13$, $SD=.95$). Therefore, the *protective* motivations were not an important reason for environmental volunteering.

The fifth factor was named *social*. This factor included five items of the VFI social items such as 'Volunteering is an important activity for the people I know the best' or 'People I'm close to volunteer', as well as the item from tourism literature, 'Volunteering gives me an opportunity to work with my friends or family members'. This factor represents that participants are motivated to volunteer by being affected by social networks or to affect other people such as children or friends. This factor accounted for 4.31% of total variance and was rated in the middle range within the motivational factors ($M=3.75$, $SD=.75$).

The last factor was named *leisure* and contained six items such as 'Volunteering gives me an opportunity enjoy a day out', 'Volunteering allows me to gain a new perspective on things', and 'Volunteering is for me a form of having fun'. Most items in this factor were derived from the leisure motivation literature, while some were from the

understanding factor in the VFI. Hence this factor accounted for 4.31% of total variance, the importance of the factor was rated high (M=4.23, SD=.53).

As can be seen in Table 17, some items loaded on more than two factors. For example, the item of 'I can explore my strengths and weaknesses' loaded on *career* and *leisure*. Also, the item of 'Volunteering lets me learn through direct hands-on experience' loaded on *values of nature*, *career*, and *leisure*. These items were removed for further analysis, as double loading will have been problematic for the confirmatory factor analysis (Byrne, 2010).

4.4.3 Comparison of motivational factors between episodic and ongoing volunteers.

To address the objective of understanding motivational differences between episodic and ongoing volunteers, an independent-samples t-test was conducted on the motivation factors identified in previous section between episodic and ongoing volunteers (Table 18).

Table 18: Motivational differences between episodic and ongoing volunteers

Factor	Frequency of volunteering	Mean	N	t	Df	p	
Values of nature	Episodic (less than annually)	4.26	(222)	-6.755	351	.000	***
	Ongoing (more than quarterly)	4.64	(131)				
career	Episodic (less than annually)	3.20	(204)	-2.96	315	.003	**
	Ongoing (more than quarterly)	3.51	(113)				
Social	Episodic (less than annually)	3.66	(224)	-2.84	351	.005	**
	Ongoing (more than quarterly)	3.90	(129)				
Protective	Episodic (less than annually)	2.96	(223)	-1.906	351	.057	
	Ongoing (more than quarterly)	3.16	(130)				
Enhancement	Episodic (less than annually)	3.80	(221)	-1.88	353	.061	
	Ongoing (more than quarterly)	3.95	(134)				
Leisure	Episodic (less than annually)	4.12	(229)	-4.07	362	.000	***
	Ongoing (more than quarterly)	4.35	(135)				

Note: All significant levels are two-tailed. *** $p < .001$, ** $p < .01$,

Generally, ongoing volunteers were more motivated than episodic volunteers in all factors. Specifically, *values of nature* ($t(351) = -6.755$, $p < .001$) and *leisure* ($t(362) = -4.07$, $p < .001$) were the most important factors for ongoing volunteers. Ongoing volunteers placed higher importance on the value of nature settings such as compassion, concern, and intention to sustain the natural environment, as well as leisure motivation such as

enjoying a day out or having fun. This is probably because ongoing volunteers understand the environment on the island, its importance, and the difficulties to maintain it, as well as the ways they can enjoy themselves in the limited circumstances, within the context of their multiple visiting.

Career ($t(315)=-2.96, p<.01$) and *social* ($t(351)=-2.84, p<.01$) were also recognised as important factors for environmental volunteering by ongoing volunteers. Ongoing volunteers regarded environmental volunteering as useful opportunities to increase their career as well as their social networks. This is partly because ongoing volunteers might have had opportunities to utilise the volunteer experiences into their career or social context throughout their long volunteer experiences, whereas episodic volunteers had less expectation to meet these opportunities. In addition, as environmental volunteering does not require any special skills or knowledge, episodic volunteer might think it does not enhance their career options directly.

As far as *protective* and *enhancement* factors were concerned, ongoing volunteers put slightly higher importance on these factors than episodic volunteers did. However, these differences were not significant (*protective*; $t(351)=-1.906, N.S.$, *enhancement*; $t(351)=-1.88, N.S.$). In other words, episodic volunteers put relatively more importance on *protective* and *enhancement* factors.

To sum up the comparison between episodic and ongoing volunteers, ongoing volunteers generally had higher motivation scores than episodic volunteers, especially by the *values of nature, leisure, career, and social* factors. As the VFI measures not only volunteers' motivations but also the functionality of volunteering, ongoing volunteers tend to perceive more functional benefits of volunteering. On the other hand, episodic volunteers were highly motivated by the *protective* and *enhancement* factors, compared to other motivational factors. Both protective and enhancement factors have a 'self' centred focus. In this case, episodic volunteers tend to be motivated by self-centred motivations more than other types of volunteers.

4.4.4 Comparison of motivational factors between domestic volunteers and international volunteers.

To understand the difference in motivations between the domestic volunteers and the international volunteers, a t-test was conducted on the means of the motivational

factors (Table 19). Participants in this study were categorised into two group based on their origin: domestic volunteers who live in Auckland and New Zealand, and international volunteers who come from overseas.

Career ($t(330)=-5.778, p<.001$), *enhancement* ($t(367)=-3.707, p<.001$), and *protective* ($t(366)=-2.156, p<.05$) factors were significantly more important for international volunteers than domestic volunteers. International volunteers regarded that environmental volunteering can increase their career opportunities in some ways, whereas domestic volunteers did not recognise that. In addition, environmental volunteering plays important roles for tourist volunteers in terms of self-development. These results may be partly because most international volunteers are under 25 years old, who seek career opportunities, self-confidence, and seek experiences that will develop their self-confidence and self-esteem. It would seem reasonable to expect that environmental volunteering overseas would provide them these benefits through their experiences.

Table 19: Motivational difference between domestic leisure volunteers and international tourist volunteers

Factor	Origin of volunteers	Mean	N	SD	t	df	p
Values	Domestic	4.38	(315)	.55	-1.273	366	0.204
	International	4.48	(53)	.49			
Career	Domestic	3.19	(279)	.87	-5.778	330	0.000 ***
	International	3.94	(53)	.84			
Social	Domestic	3.80	(313)	.72	3.480	365	0.001 ***
	International	3.42	(54)	.87			
Protective	Domestic	2.99	(314)	.94	-2.156	366	0.032 *
	International	3.29	(54)	.98			
Enhancement	Domestic	3.80	(317)	.73	-3.707	367	0.000 ***
	International	4.20	(52)	.62			
Leisure	Domestic	4.20	(324)	.52	-0.596	376	0.552
	International	4.24	(54)	.55			

Liker scales were 1 = "Strongly disagree" to 5 = "Strongly agree"

Note: All significant levels are two-tailed. *** $p<.001$, ** $p<.01$, * $p<.05$

In terms of the *social* factor, there was a significant difference ($t(365)=3.480, p<.001$); this factor positively affected the domestic volunteers' motivations more than the international volunteers' motivations (domestic: 3.80, international: 3.42). For domestic volunteers, social reasons such as influences from, or socialising with, others

are important elements of environmental volunteering. This result suggested that social networks could play a significant role in increasing local volunteers' participation in volunteering

Finally, the factors of *values* and *leisure* were not statistically different between domestic and international volunteers. Both the domestic volunteers (4.38) and the international volunteers (4.48) put high score on the *values* factor ($t(366)=-1.273$). Also, the *leisure* factor was rated with high scores (domestic: 4.20, international: 4.24). Altruistic purposes and hedonistic purposes were not related to volunteers' place of origin.

Thus, from volunteerism perspectives (episodic/ongoing), *values of nature* and *leisure* were the most important factors to differentiate between episodic and ongoing volunteers; however, from leisure/tourism perspectives, these were not significant factors to identify between domestic volunteers and international volunteers. This result suggested that both altruistic and hedonistic purposes are important elements for determining the frequency of volunteering, while these are not related to domestic or international participants.

4.5 Descriptive analysis of leisure involvement

4.5.1 Leisure involvement items.

To understand the level of leisure involvement of the sample, the mean of each item and average of dimensions of leisure involvement were calculated (Table 20). The Modified Personal Involvement Inventory is to scale levels psychological and behavioural involvement in the activity, in which a 5-point Likert type scale presents 1 = "Strongly disagree" to 5 = "Strongly agree". The most significant item of leisure involvement was 'Volunteering on this island pleases me' ($M=4.19$ $SD=.65$), followed by 'Volunteering on this island interests me' ($M=4.18$, $SD=.64$). Both items were categorised in the attraction dimensions of leisure involvement. On the contrary, some items in the centrality dimension were rated low, such as 'Volunteering on this island plays a central role in my life' ($M=2.38$, $SD=1.07$), or 'Most of my friends are in some way connecting with volunteering on this island' ($M=2.54$, $SD=1.12$). Most of the self-expression items were ranked in the middle range ('When I volunteer on this island,

others see me the way I want to see me', $M=3.02$, $SD=.98$; 'I can tell others a lot about volunteering on this island', $M=3.89$, $SD=.91$).

Table 20: Results of descriptive analysis of leisure involvement items and dimensions

Descriptive Statistics of leisure involvement items				
Code	Items	Mean	N	SD
INV_AT3	Volunteering on this island pleases me.	4.19	(388)	.65
INV_AT4	Volunteering on this island interests me.	4.18	(387)	.64
INV_AT5	Volunteering on this island offers me relaxation.	3.96	(388)	.81
INV_EXP2	I can tell others a lot about volunteering on this island.	3.89	(389)	.91
INV_AT1	Volunteering on this island is very important to me.	3.81	(389)	.81
INV_CEN4	I like to discuss volunteering on this island with my friends.	3.70	(388)	.99
INV_EXP1	When volunteering on this island, I can demonstrate my ability and personality.	3.59	(388)	.90
INV_AT2	Volunteering on this island is one of the most enjoyable things that I do.	3.56	(387)	.93
INV_EXP3	When volunteering on this island, I can really be myself.	3.52	(388)	.84
INV_EXP4	When I volunteer on this island, others see me the way I want them to see me.	3.02	(388)	.98
INV_CEN1	A lot of my spare time is related to volunteering on this island.	2.54	(389)	1.14
INV_CEN3	Most of my friends are in some way connected with volunteering on this island.	2.54	(387)	1.12
INV_CEN2	Volunteering on this island plays a central role in my life.	2.38	(389)	1.07
Dimensions		Mean	N	SD
Attraction		3.94	(383)	.59
Centrality		2.79	(386)	.82
Self-expression		3.51	(386)	.70

As seen in Table 18, generally, attraction was the most important for environmental volunteers ($M=3.94$, $SD=.59$), followed by self-expression ($M=3.51$, $SD=.70$). On the other hand, centrality was not very important for the participant ($M=2.79$, $SD=.82$). Therefore, psychological enjoyment of the activity was the most important experience for the involvement in environmental volunteering. However, centrality, the extent to which environmental volunteering plays a central role in their life and social network, was not important for them. This may be because most of the surveys were conducted straight after the volunteering experience, so that the direct experience of volunteering strongly affected their evaluations, rather than peripheral experiences, such as talking about volunteering with their friends or preparation for volunteering.

4.5.2 Comparison of leisure involvement dimensions between episodic volunteers and ongoing volunteers.

As discussed in the literature review chapter (two), leisure involvement has three dimensions: attraction, centrality, and self-expression. To investigate the differences in these dimensions between episodic volunteers and ongoing volunteers, an independent-sample t-test was conducted (Table 21).

Table 21: Differences of leisure involvement dimensions between episodic and ongoing volunteers

Factor	Frequency of volunteering	Mean	N	SD	T	df	p	
Attraction	Episodic (less than annually)	3.81	(233)	.56	-6.469	366	.000	***
	Ongoing (more than quarterly)	4.20	(135)	.56				
Centrality	Episodic (less than annually)	2.61	(233)	.72	-5.897	369	.000	***
	Ongoing (more than quarterly)	3.10	(138)	.88				
Self-expression	Episodic (less than annually)	3.40	(234)	.65	-4.601	369	.000	***
	Ongoing (more than quarterly)	3.73	(137)	.70				

Liker scales were 1 = "Strongly disagree" to 5 = "Strongly agree"

Note: All significant levels are two-tailed. *** $p < .001$, ** $p < .01$, * $p < .05$

The most prominent difference was found in the attraction dimension ($t(366) = -6.469$, $p < .001$). The results showed that ongoing volunteers ($M = 4.20$, $SD = .56$) felt more pleasure, enjoyment, and relaxation than episodic volunteers ($M = 3.81$, $SD = .56$) while they were volunteering. It may be assumed that ongoing volunteers are familiar with the context and afford to enjoy the activity; on the other hand, episodic volunteers might feel uncomfortable due to uncertainty about the situation and what is involved.

In terms of the centrality dimension, a significant difference was found between ongoing and episodic volunteers ($t(369) = -5.897$, $p < .001$). Ongoing volunteers indicated a slightly positive answer, on average, on the 5-point Likert scale ($M = 3.10$, $SD = .88$); on the other hand, episodic volunteers showed a negative response ($M = 2.61$, $SD = .72$). This result showed that volunteering on the island or related activities influenced to the daily life of ongoing volunteers, whereas episodic volunteers were not influenced much from volunteering in their daily life. In the other words, ongoing volunteers regularly put their efforts or commitment in related activities, but episodic volunteers did not engage in the related activities in their daily life.

The self-expression dimension also showed a significant difference ($t(369) = -4.601$, $p < .001$). Ongoing volunteers showed higher level of self-expression ($M = 3.73$, $SD = .70$)

than episodic volunteers ($M=3.40$, $SD=.65$). Ongoing volunteers felt that doing volunteer work was a way to express their ability or personality, and even themselves. On the other hand, episodic volunteers did not recognise that the participation in environmental volunteering expresses themselves.

While all dimensions indicated that ongoing volunteers were involved in environmental volunteering more than episodic volunteers, the differences were not the same. Specifically, the attraction dimension showed the largest difference; on the other hand, the self-expression dimension was the smallest difference. This suggested that enjoyment of volunteering was the most important experience for ongoing volunteers to be involved in the activities; whereas episodic volunteers put relatively more importance on self-expression, which included talking to, or showing others what they did.

4.5.3 Comparison of leisure involvement dimensions between domestic and international volunteers.

To identify the difference in leisure involvement between domestic and international volunteers, a t-test was conducted on leisure involvement dimensions (Table 22). Generally, international volunteers showed higher involvement than domestic volunteers. There was a slight difference on the attraction dimension between domestic and international volunteers (domestic: 3.91, international: 4.07), however, it was not statistically significant ($t(377)=-1.742$, N.S.). Also, there was no significant difference found on the centrality dimension ($t(380)=-.922$, N.S.). However, a significant difference was found on the self-expression dimension ($t(380)=-4.279$, $p<.001$). International volunteers acknowledged that environmental volunteering is a way of self-expression more often than domestic volunteers (domestic: 3.88, international: 3.45). In other words, those participating as environmental volunteers from overseas could play an important role in representing themselves by talking to others or describing their experiences.

Table 22: Differences of leisure involvement dimensions between domestic and international volunteers

Factor	Origin of volunteers	Mean	N	SD	t	df	p
Attraction	Domestic	3.91	(327)	.60	-1.742	377	0.082
	International	4.07	(52)	.56			
Centrality	Domestic	2.77	(330)	.83	-0.922	380	0.357

Self-expression	International	2.88	(52)	.76	-4.279	380	0.000	***
	Domestic	3.45	(330)	.68				
	International	3.88	(52)	.74				

Liker scales were 1 = “Strongly disagree” to 5 = “Strongly agree”

Note: All significant levels are two-tailed. ***p<.001, **p<.01, *p<.05

As shown in Table 22, the results indicated that the frequency of volunteering represented the extent of leisure involvement more precisely than the origin of volunteers. However, compared to domestic volunteers, international volunteers indicated relatively higher levels of leisure involvement, which demonstrates that travelling overseas for environmental volunteering requires a certain level of leisure involvement.

4.6 Descriptive analysis of place attachment

4.6.1 Place attachment items.

Place attachment scales included eight items constructing two dimensions; place identity and place dependent. All questions were asked on a 5-point Likert-type scale presenting form 1 = ‘Strongly disagree’ to 5 = ‘Strongly agree’.

Table 23: Results of descriptive analysis of place attachment items and dimensions

Code	Items	Mean	N	SD
PA_PI1	Visiting this island is meaningful to me.	3.91	(389)	.80
PA_PI2	I identify strongly with visiting this island.	3.12	(387)	1.10
PA_PI3	I am very attached to this island.	3.00	(387)	1.11
PA_PI4	I have a special connection to this island and other volunteers who visit here.	2.91	(389)	1.11
PA_PD2	I get more satisfaction from visiting this island than visiting any other place.	2.61	(388)	1.03
PA_PD3	Visiting this place is more important to me than visiting any other place.	2.55	(387)	.97
PA_PD1	I enjoy visiting this place more than visiting any other place.	2.52	(389)	1.02
PA_PD4	I would not substitute any other type of recreation for what I do here.	2.46	(388)	1.02
Dimensions of place attachment		Mean	N	SD
Place identity		3.24	(385)	.87
Place dependence		2.54	(386)	.90

All place identity items were rated higher than place dependent items. The item of ‘Visiting this island is meaningful to me’ was ranked the highest (M=3.91, SD=.80), followed by the item of ‘I identify strongly with visiting this island’ (M=3.12, SD=1.10). On the other hand, the item of ‘I would not substitute any other type of recreation for

what I do here' was rated the lowest in the place attachment scales (M=2.46, SD=1.02).

As seen in Table 23, place identity was rated higher than place dependence. This result suggested that participants' affective feeling towards the island was higher than cognitive connection to the functional attributes of the island.

4.6.2 Comparison of place attachment items between episodic volunteers and ongoing volunteers.

To identify the difference in place attachment dimensions between episodic and ongoing volunteers, an independent-sample t-test was performed (Table 24).

Table 24: Differences of place attachment dimensions between episodic and ongoing volunteers

Factor	Frequency of volunteering	Mean	N	SD	t	df	p	
Place identity	Episodic	3.01	(234)	.754	-7.280	368	.000	***
	Ongoing	3.65	(136)	.899				
Place dependence	Episodic	2.40	(233)	.794	-3.608	369	.000	***
	Ongoing	2.74	(138)	1.003				

Likert scales were 1 = "Strongly disagree" to 5 = "Strongly agree"

Note: All significant levels are two-tailed. ***p<.001,

Episodic: Less than annually, Ongoing: More than quarterly

The place identity dimension was significantly different between episodic and ongoing volunteers ($t(368)=-7.280$, $p<.001$). Ongoing volunteers (M=3.65, SD=.899) felt higher levels of place identity on the island than episodic volunteers did (M=3.01, SD=.754). Ongoing volunteers put more values or symbolic meanings onto the island, while episodic volunteers were not connected to the island in terms of their affective sense.

Place dependence was negatively recognised for both episodic (M=2.40, SD=.794) and ongoing volunteers (M=2.74, SD=1.003). As place dependence represents the total satisfaction with the island's functional attributes, both episodic and ongoing volunteers were not satisfied with the facilities of the islands. However, ongoing volunteers reported more satisfaction and enjoyment from visiting the island than episodic volunteers ($t(369)=-3.608$, $p<.001$). This might be because ongoing volunteers had more experiences on the island to cover the shortcomings, or simply they did not expect the facilities as their main purpose was volunteering, rather than recreational activity.

4.6.3 Comparison of place attachment items between domestic and international volunteers.

To identify the difference in place attachment between domestic volunteers and international volunteers, a t-test was conducted on the means of place attachment factors (Table 25). There was no significant difference between domestic and international volunteers in the place identity factor ($t(379)=-1.076$, N.S.). Similarly, a significant difference was not found in the place dependent factor ($t(380)=.086$, N.S.). These results suggested that the distance from their home environment did not impact on either group affectively or cognitively.

Table 25: Comparison of place attachment dimensions between domestic leisure volunteers and international tourist volunteers

Factor	Origin of volunteers	Mean	N	SD	t	df	p
Place identity	Domestic	3.22	(329)	.87	-1.076	379	0.283
	International	3.36	(52)	.83			
Place dependence	Domestic	2.54	(330)	.91	0.086	380	0.931
	International	2.52	(52)	.84			

Liker scales were 1 = "Strongly disagree" to 5 = "Strongly agree"

Comparisons of place attachment revealed that the frequency of visiting affects place attachment for domestic volunteers more than those international visitors who visit more infrequently. In other words, those who visit the place more, feel connected to the place and identify the value of the place. This is partly because place attachment has grown by the time they leave the place, and after they have been away from it, they recognise the meaning of the place. Therefore, volunteers from overseas might not feel place attachment while still on the island.

4.7 Confirmatory factor analysis

4.7.1 Confirmatory factor analysis of motivations.

A confirmatory factor analysis (CFA) was carried out to test the extent to which the latent variables were explained by the observable items. As described in previous chapter, environmental volunteers have six motivational factors: *values of nature* (6 items), *career* (5 items), *enhancement* (5 items), *protective* (3 items), *social* (6 items), and *leisure* factor (5 items). This section examines whether these items are sufficient to explain environmental volunteer motivations. The SPSS AMOS version 22 was used

to validate these components. As a consequence, the CFA is a test of whether the data of observable variables fit well in the model.

4.7.2 Goodness of fits and modification.

As Byrne (2010) notes, “evaluation of model fit should derive from a variety of perspectives and be based on several criteria that assess model fit from a diversity of perspectives” (pp. 66-67); for example, Chi-square (X^2), Chi-square divided by degree of freedom (X^2/df), Root mean square error of approximation (RMSEA), and Comparative fit index (CFI). Some scholars note that X^2/df should be lower than five (Kremelberg, 2011; Schumacker & Lomax, 2010), whereas others assert the need for a lower threshold (Tabachnick & Fidell, 2007; Ullman, 2001). However, this criterion should not be used alone, but as an adjunct to other types of indicators (Byrne, 2010). The RMSEA is one of the most popular fit indices, which is suitable for estimating the parameters in the model (Hooper, Coughlan & Mullen, 2008). According to MacCallum, Browne and Sugawara (1996), the RMSEA should be lower than 0.10; on the other hand, Steiger (2007) states that the upper limit should be 0.07. The CFI is suitable if the sample size is small (Byrne, 2010). A threshold of the CFI should be greater than 0.90 (Kremelberg, 2011; Westland, 2015). Considering the exploratory conditions of this study, the following thresholds were used (Table 26).

Table 26: Thresholds of indicators used in this study

Indicators	Threshold	References
X^2/df	<.05	(Kremelberg, 2011; Schumacker & Lomax, 2010)
CFI	>.90	(Kremelberg, 2011; Westland, 2015)
MRSEA	<.10	(MacCallum et al, 1996)

The initial CFA model was performed to test if environmental volunteers’ motivations could be well described by six factors, which were loaded by independent observable variables. Some cross-loaded items that were identified in the EFA were removed from this analysis. Correlations between factors were admitted. Also maximum likelihood procedure was used to estimate the missing values. The initial CFA model is shown in Figure 5. The goodness-of-fit of the initial model indicated relatively poor fits compared to the criteria discussed above ($X^2=1024.41$, $df=419$, $X^2/df=2.45$, $CFI=.883$, $RMSEA=.06$). However, as Shumacker and Lomax (2010) note, in a case where the model provides poor model-fit indices, a further model specification is often carried

out to obtained a better fit. One of the common specifications of the model is to utilise modification indices, which account for the extent to which misfits occur in the model (Jöreskog & Sörbom, 1993). As Byrne (2010) states, a modification index “presents the expected in overall X^2 value if the parameter were to be freely estimated in a subsequent run; all freely estimate parameters automatically have MI [modification index] value equal to zero” (p. 86). In other words, a high degree of modification indices between error terms of observable variables should correlate to each other to reduce misfits (Schumacker & Lomax, 2010), as these error terms have strong relationships. However, these practices should be conducted in cases of theoretical justification, such as error terms correlating within the same factor (Hooper, Coughlan & Mullen, 2008).

As the SPSS AMOS returns modification indices only when the data set does not have missing values, a temporary data set that does not include missing values was used. The temporary data set of 286 responses was used only for identifying the modification indices. As a consequence of the treatment of the modification indices, some error covariance in parameters were correlated based on high modification indices, which estimated over .10 parameter change.

A further method of the model modification is to “assess the fit of each construct and its items individually to determine whether there are any items that are particularly weak” (Hooper et al., 2008, p.56). In other words, if the relationship between the latent factor and observable variable is weak, the path can be removed. Based on this method, seven observable variables were removed, as these estimates were relatively weak (factor loadings were under .65), which were the following items:

MT_VLU2; I am genuinely concerned about the location I am volunteering in.

MT_UST1; I can learn more about the cause for which I am interested.

MT_UST4; I can deepen my understanding of eco-systems that supports plants and animals.

MT_SOC3; People I’m close to volunteer.

MT_SOC4; My friends place a high value on environmental volunteering.

MT_SOC5; People I know share an interest in environmental activities.

MT_LEIS3; Volunteering gives me an opportunity to work with my friends or family members.

MT_LEIS4; Volunteering makes me feel relaxed.

MT_LEIS5; Volunteering helps me keep fit.

MT_UST2; Volunteering allows me to gain a new perspective on things (see Figure 5).

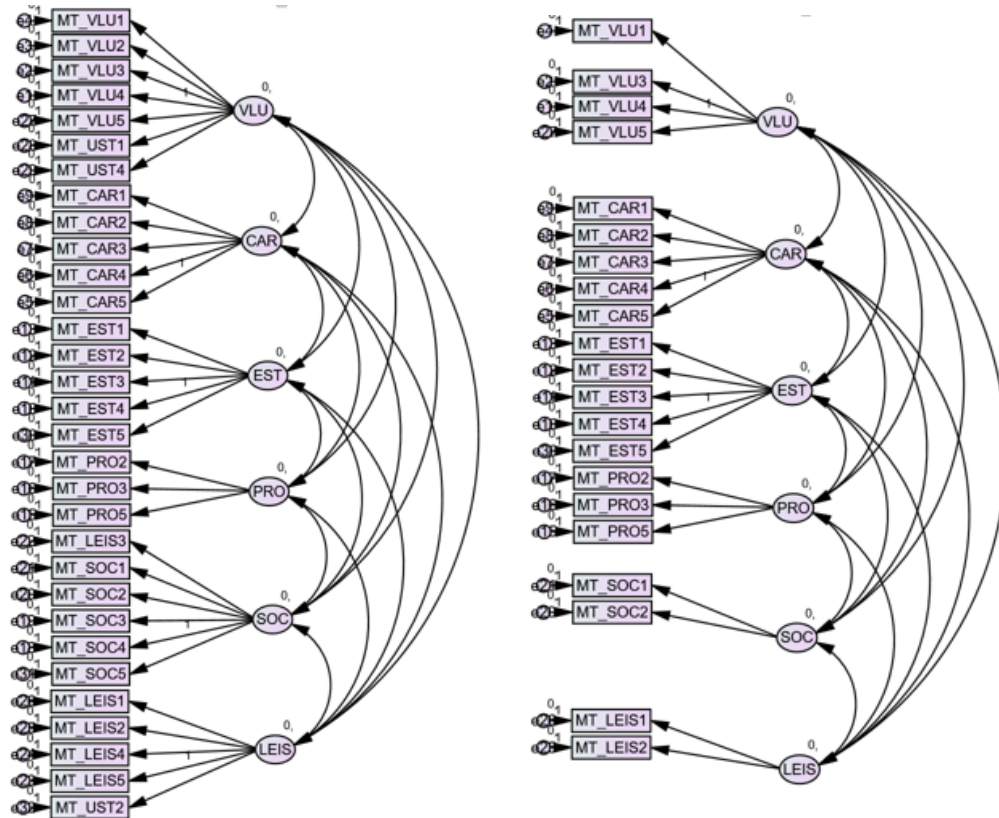


Figure 5: Initial CFA model of volunteer motivation (L) and Modified model (R)

As a consequence of assessing the construct parameters, all correlated error terms by modification indices were removed. As a result, the adjusted CAF model of motivations showed higher indication of fitness ($X^2(174) = 364.174$, $X^2/df = 2.092$, CFI = .946, RMSEA = .053), in which all fitness indices above the thresholds shown in Table 26.

4.7.3 Validity and reliability of motivation scales.

Not only the fitness level of the mode, but also the reliability and validity of the model should be addressed (Bagozzi & Yi, 2012; Nunkoo, Ramkissoon & Gursoy, 2013; Schreiber et al., 2006). The internal validity of the CFA can be measured by the convergent validity, which refers to the strength of the relationships between the latent value and its constructs (Brown, 2015). In other words, if convergent validity is high enough, the latent variable is well explained by the observable variables. The

convergent validity was tested by the Average Variance Extracted (AVE) (>.50, Fornell & Larcker, 1981). Composite reliability (CR) accounts for the extent to which each construct is related and consistent. The CR value should be over .70 (Brown, 2015).

Table 27: Results of factor loading of the CFA for motivation items

Constructs of factors			Standardised regression weight (Factor loading)	AVE	CR
MT_VLU5	<-	VLU	0.766	0.604	0.858
MT_VLU4	<-	VLU	0.852		
MT_VLU3	<-	VLU	0.806		
MT_VLU1	<-	VLU	0.673		
MT_CAR5	<-	CAR	0.732	0.533	0.850
MT_CAR4	<-	CAR	0.819		
MT_CAR3	<-	CAR	0.712		
MT_CAR2	<-	CAR	0.694		
MT_CAR1	<-	CAR	0.686		
MT_EST5	<-	EHMT	0.746	0.555	0.861
MT_EST4	<-	EHMT	0.656		
MT_EST3	<-	EHMT	0.765		
MT_EST2	<-	EHMT	0.756		
MT_EST1	<-	EHMT	0.794		
MT_PRO5	<-	PRO	0.736	0.633	0.836
MT_PRO3	<-	PRO	0.710		
MT_PRO2	<-	PRO	0.924		
MT_SOC2	<-	SOC	0.562	0.557	0.705
MT_SOC1	<-	SOC	0.893		
MT_LEIS2	<-	LEIS	0.710	0.498	0.665
MT_LEIS1	<-	LEIS	0.702		

AVE: Average Variance Extracted.

CR: Composite Reliability

As shown in Table 27, the *value of nature, career, enhancement, protective and social* factors indicated good validity and liability, as AVE and CR were over the threshold. However, *leisure* indicated relatively low validity (AVE=.498) and reliability (CR=.665). The *value of nature, career, enhancement, protective, and social* factors comprised strong and reliable variables that precisely represented each factor. On the other hand, while the *leisure* factor was identified as a factor, the validity and reliability of the observable variables were relatively weak. This result indicated that the leisure factor may be a part of environmental volunteering; however, the items measuring

this factor are not reliable. So that there might be better items to scale the *leisure* motivations of environmental volunteers.

4.7.4 Confirmatory factor analysis of leisure involvement.

To address the objective, to identify the components of leisure involvement of environmental volunteers, a confirmatory factor analysis (CFA) was conducted. The leisure involvement scale has been sufficiently investigated and did not include any other items in this study. It assumed that the leisure involvement scales can be effective in assessing environmental volunteering, and contain attraction, centrality, and self-expression dimensions. A CFA was conducted on the leisure involvement scale with a maximum likelihood minimisation function. The goodness of fit was examined in terms of X^2/df , CFI, and MRSEA. X^2 was 397.46, the degree of freedom was 62, X^2/df was 6.41. Also the CFI was 0.847 and the MRSEA was 0.117. As these indicators showed relatively poor model fits compared to the thresholds, model specifications were conducted as for the CFA of the motivation items. Due to the weakness of loading, the following items were eliminated:

INV_AT3; Volunteering on this island pleases me.

INV_AT4; Volunteering on this island interests me.

INV_AT5; Volunteering on this island offers me relaxation.

INV_CEN3; "Most of my friends are in some way connecting on this island.

INV_CEN4; I like to discuss volunteering to this island with my friends.

INV_EXP2; I can tell others a lot about volunteering on this island (Figure 6).

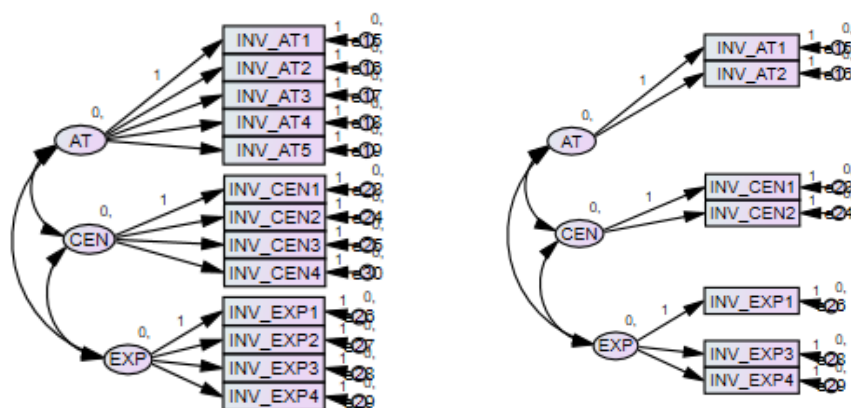


Figure 6: Initial CFA model of volunteer leisure involvement (L) and Modified model (R)

As a consequence, the goodness-of-fit indicators were improved, and above the thresholds ($X^2(11)=53.01$, $X^2/df=4.819$, $CFI=.962$, and $MRSEA=.098$).

4.7.5 Validity and reliability of leisure involvement scales.

As seen in Table 28, the validity and reliability of the CFA were at acceptable levels. The AVE of the attraction factor was .572 ($>.50$) and the CR was .724 ($>.70$). The centrality factor also indicated a high validity (AVE=.710) and reliability (CR=.830). On the other hand, the self-expression factor showed relatively low validity (AVE=.521) and reliability (CR=.765). This result confirmed that environmental volunteers have three dimensions of leisure involvement, and these dimensions are explained well by each item. In this sense, environmental volunteering is also a leisure activity that can be subject to involvement similar to other sports or recreational activities.

Table 28: Result of the CFA of leisure involvement scales

Constructs of factors			Standardised regression weight (Factor loading)	AVE	CR
INV_AT1	<-	AT	0.645	0.572	0.724
INV_AT2	<-	AT	0.853		
INV_CEN1	<-	CEN	0.794	0.710	0.830
INV_CEN2	<-	CEN	0.887		
INV_EXP1	<-	EXP	0.706	0.521	0.765
INV_EXP3	<-	EXP	0.765		
INV_EXP4	<-	EXP	0.691		

AVE: Average Variance extracted.

CR: Composite Reliability

4.7.6 Confirmatory factor analysis of place attachment.

As the dimensions of place attachment have been studied considerably in previous research, these dimensions can be applied to environmental volunteering. Therefore, a CFA for the place attachment scales was conducted, with a maximum likelihood minimisation function. The initial CFA model of place attachment showed slightly poor fits in some indicators ($X^2=95.73$, $df=19$, $X^2/df=5.038$, $CFI=.965$, and $MRSEA=.101$). As such, the modification indices were checked and one of the indices between errors was correlated (Figure 7, (L)). Also as one of the constructs in *place identity* factor was relatively weak loading (0.579), the item of PA_PI1; 'Visiting this island is meaningful to me', was removed (Figure 7, (R)). After the specification of the CFA model, goodness-

of-fit indicators were improved above the thresholds ($\chi^2=57.35$, $df=12$, $\chi^2/df=4.779$, CFI=.977, and MRSEA=.098).

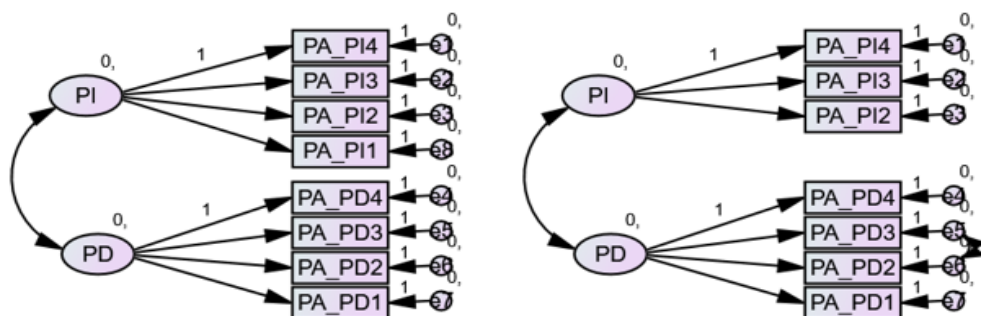


Figure 7: Initial CFA model of volunteer place attachment (L) and Modified model (R)

4.7.7 Validity and reliability of place attachment scales.

As long as the validity and reliability of the CAF for the place attachment held, both *place identity* and *place dependence* dimensions indicated good validity and reliability (Table 29). The AVE for place identity was .695 and for place dependence was .711 accessing of the criteria of .70. These results indicated that these factors were well-explained by constructs. Furthermore, the CR for place identity was .872 and for place dependence was .908. Both validity and reliability were considerably higher than the thresholds. The items of these factors were strongly consistent.

Table 29: Result of the CFA of place attachment

Constructs of factors			Standardised regression weight (Factor loading)	AVE	CR
PA_PI4	<-	PI	0.773	0.695	0.872
PA_PI3	<-	PI	0.883		
PA_PI2	<-	PI	0.841		
PA_PD4	<-	PD	0.789	0.711	0.908
PA_PD3	<-	PD	0.797		
PA_PD2	<-	PD	0.862		
PA_PD1	<-	PD	0.919		

AVE: Average Variance extracted.

CR: Composite Reliability

These results support that the place identity of environmental volunteers was constructed by the *place identity* and *place dependent* factors. These factors were well defined and consistently measured by seven items in the research instrument.

4.8 Structural equation modelling

As Kremelberg (2011) noted, structural equation modelling (SEM) is to test a statistical model “that allows one to determine both direct and indirect effects and also allows for the inclusion of latent variables” (p. 505). Nunkoo et al. (2013) noted that the use of SEM should be hypothesis-driven. The model to be tested in this study included factors derived from the CFA of motivations, leisure involvement, and place attachment. In turn, six factors from motivation (*career, values, protective, enhancement, social, and leisure*), three factors from leisure involvement (*attraction, centrality, and self-expression*), and two factors from place attachment (*place identity and place dependent*) were included in the model based on the VPM (Figure 8). This model was labelled as a ‘six-factor model’ for the sake of this study.

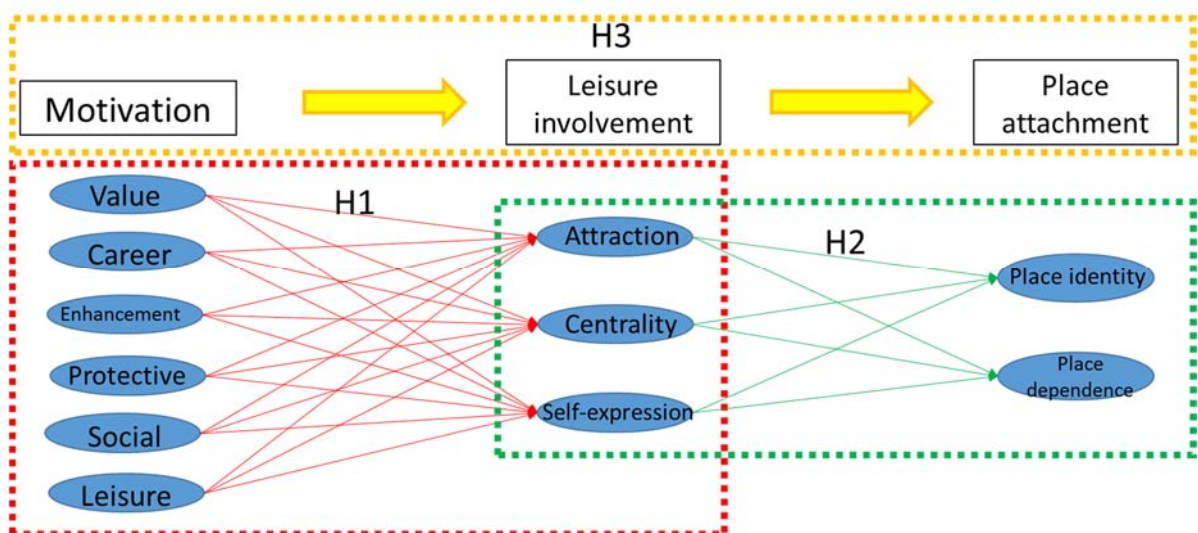


Figure 8: Theoretical model of environmental volunteer experiences (Sources: Adapted from Omoto and Snyder (1995, 2002))

SPSS AMOS version 22 was used to test the model with maximum likelihood estimation method as the data used was supposed to be a normal distribution. The data used was the same data as the original data that contains 396 responses; however, with missing data. Within the data processing, one error term on *attraction* in leisure involvement indicated a negative coefficient (-.018). As it was relatively small, it was constrained at a positive coefficient (.00001) to complete the process.

The results of goodness-of-fits indicated that the model was well explained ($X^2=1090.173$, $df=521$, $X^2/df=2.092$, $CFI=.924$, and $RMSEA=.05$). These results

suggested that motivations of environmental volunteers influenced the leisure involvement, and the leisure involvement affected the level of place attachment, which supported H3: The Volunteer Process Model for environmental volunteers are composed by three stages; motivation, leisure involvement, and place attachment.

As seen in Table 30 and Figure 9, some of regression weight coefficients were greater than one. This tends to happen when “there is high degree of multicollinearity in the data” (Jöreskog, 1999, p. 1). Therefore, to scrutinise this issue, correlations of the exogenous latent variables were checked (Table 31). The correlations between the factors of *social* and *enhancement*, and *social* and *leisure* were significantly high. These might be the cause of this issue.

Table 30: Standardised regression weight on paths of the model (L) and results of reliability and validity (R)

Paths			Standardized Regression Weights	P		Factors	AVE	CR
AT	<-	VLU	0.65	0.002	**	Motivation		
CEN	<-	VLU	0.31	0.106		Values	0.603	0.858
EXP	<-	VLU	0.34	0.024	*	Career	0.533	0.850
AT	<-	CAR	-0.02	0.930		Enhancement	0.554	0.861
CEN	<-	CAR	0.04	0.807	*	Protective	0.632	0.835
EXP	<-	CAR	0.14	0.336		Social	0.239	0.376
AT	<-	EHMT	-0.73	0.005	**	Leisure	0.483	0.651
CEN	<-	EHMT	-0.67	0.005	**	Leisure involvement		
EXP	<-	EHMT	-0.24	0.205		Attraction	0.562	0.719
AT	<-	PRO	0.00	0.985		Centrality	0.620	0.756
CEN	<-	PRO	0.19	0.261		Self-expression	0.520	0.764
EXP	<-	PRO	0.09	0.500		Place attachment		
AT	<-	SOC	1.80	0.000	***	Place identity	0.695	0.872
CEN	<-	SOC	1.58	0.000	***	Place dependence	0.711	0.907
EXP	<-	SOC	1.22	0.000	***			
AT	<-	LEIS	-0.87	0.012	*	AVE: Average Variance Extracted.		
CEN	<-	LEIS	-0.87	0.007	**	CR: Composite Reliability		
EXP	<-	LEIS	-0.62	0.014	*	PI: Place identity, PD: Place dependence, AT: Attraction, CEN: Centrality, EXP: Self-expression, VLU: Values, CAR: Career, EHMT: Enhancement, PRO: Protective, SOC: Social, LEIS: Leisure		
PI	<-	AT	-0.26	0.008	**			
PD	<-	AT	0.51	0.000	***			
PI	<-	CEN	0.75	0.000	***			
PD	<-	CEN	0.68	0.000	***			
PI	<-	EXP	0.18	0.092				
PD	<-	EXP	-0.05	0.543				

***p<.001, **p<.01, *p<.05

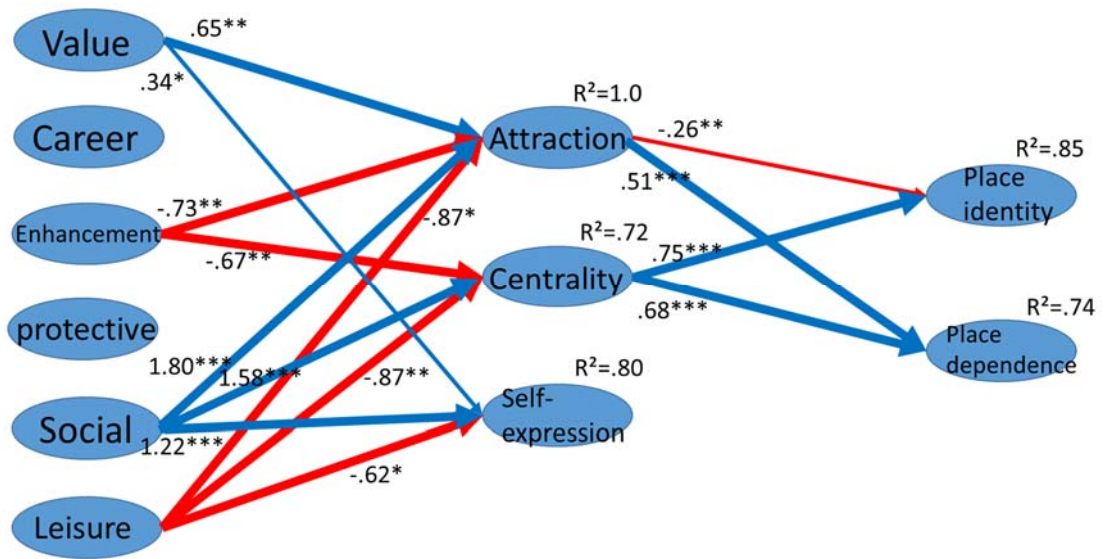


Figure 9: Standardised regression weight and R² of the six-factor model

Table 31: Correlations between exogenous latent variables

	VLU	CAR	EHMT	PRO	SOC	LEIS
VLU						
CAR	0.238					
EHMT	0.464	0.564				
PRO	0.119	0.566	0.533			
SOC	0.432	0.545	0.803	0.540		
LEIS	0.625	0.305	0.593	0.292	0.822	

To clarify, as Deegan (1978) notes, by “modifying models simply to reduce the presence of multicollinearity and/or to rid a model of standardised coefficients greater than one an analyst risks the biasing effects of model specification error” (p. 887).

Therefore, the proposed model should be kept for further investigations. However, some scholars alert that the interpretation of a regression coefficient greater than one should proceed with care (Jöreskog, 1999; Rindoskope, 1984).

Regarding validity and reliability, most factors indicated acceptable reliability and validity level except *social* and *leisure* factors in motivation (Table 30). The AVE of *social* was .239, much lower than the threshold (.50). This indicated that the items in the *social* factor might not explain the factor well in this model. Also, the CR was lower than .70. This indicated that the items used in the *social* factor were not consistent in

representing the factor. In addition, the *leisure* factor indicated relatively low AVE (.483) and CR (.651).

4.8.1 Relationships between motivation, leisure involvement, and place attachment.

As shown in Figure 9, *values of nature* and *social* factors had positive effects on each dimension of leisure involvement. On the other hand, *enhancement* and *leisure* factors were negative predictors of each dimension of leisure involvement. Therefore, the hypothesis 1: Each factor of motivation of environmental volunteers positively effects the level of leisure involvement dimensions, was rejected.

The most significant relationship between motivation and leisure involvement was on pathways from *social* to *attraction* ($\beta=1.80$, $p<.001$), to *centrality* factors ($\beta=1.58$, $p<.001$), and to *self-expression* ($\beta=1.22$, $p<.001$). Pathways from *values of nature* to *attraction* ($\beta=.65$, $p<.01$) and to *self-expression* ($\beta=.34$, $p<.05$) were also significant. These pathways from motivations to leisure involvement were all positive effects. These results indicated that social influences from others or socialising motivations are important components for environmental volunteers to improve their experience of volunteering such as enjoyment of the activity, expanding their social network through volunteering, or presenting their identities. Also, altruistic purposes to help nature brought activity enjoyment and produced self-representation or identity. In turn, their involvement toward environmental volunteering increased.

On the other hand, pathways from *leisure* to *attraction* ($\beta=-.87$, $p<.01$), to *centrality* ($\beta=-.87$, $p<.01$), and to *self-expression* ($\beta=-.62$, $p<.05$) were all negatively significant effects. In addition, pathways from *enhancement* to *attraction* ($\beta=-.73$, $p<.01$) and to *centrality* ($\beta=-.67$, $p<.01$) were negative effects. These results indicated that those who have higher leisure expectations and self-enhancement motivations tend to feel less involvement toward environmental volunteering.

In terms of pathways from leisure involvement to place attachment, strong positive pathways were found from *centrality* to both *place identity* ($\beta=.75$, $p<.001$) and *place dependent* ($\beta=.68$, $p<.001$). Those who put environmental volunteering in the centre of their life had a strong sense of place in both, affectively and cognitively. Furthermore, a significant pathway from the *attraction* factor to the *place dependence* factor was

identified ($\beta=.51$, $p<.001$). Participants who had enjoyed volunteering on the islands tended to be satisfied with the functional aspects of the island.

In contrast, the path from *attraction* to *place identity* factor showed a negative relationship ($\beta=-.26$, $p<.01$). That is, those who felt volunteering was fun or enjoyable had a negative association with *place identity*. As this result appeared illogical, it may be due to statistical constraints. These results indicated that hypothesis 2: Each dimension of leisure involvement positively affects each dimension of place attachment, should be rejected.

As a total experience of environmental volunteering, *values of nature* and *social* factors were important motivations to consider volunteering as an important activity in their life, contributing to developing a strong sense of place attachment. On the other hand, hedonistic purposes or self-centred motives had negative influences on leisure involvement. These motives can be a restriction to getting involved in environmental volunteering.

4.8.2 Differences of the six-factor model between episodic and ongoing volunteers.

A multi-group analysis of SEM was performed on episodic volunteers and ongoing volunteers based on the results of the six-factor model. The pathway from *career* to *attraction* and to *centrality*, from *protective* to *attraction*, and from *self-expression* to *place dependence* were removed, as these paths were clearly insignificant in the default model. The goodness-of-fits were at acceptable levels ($X^2=1694.842$, $df=1054$, $X^2/df=1.608$, $CFI=.907$, and $RMSEA=.04$). The comparisons were made in terms of standardised regression weights (β) of the counterpart path in models between the episodic and ongoing volunteers. The pair-wise parameter comparison in AMOS was utilised to test which pairs of parameters were statistically different based on z statistics.

Significant differences were found in the links between *values of nature* and *enhancement* of motivation factors to each of leisure involvement, as well between *self-expression* and *place identity* (Table 32). More specifically, the link between *values of nature* to *attraction* factors was significantly different between episodic and ongoing volunteers ($z=2.11$ $p<.01$), in which episodic volunteers had negative link, while ongoing volunteers had positive links. This result showed that altruistic purposes

increase the pleasure or enjoyment of ongoing volunteers, whereas motives have a negative effect on episodic volunteers. Also the connections between *values* to *centrality* ($z=2.43$, $p<.05$) and to *self-expression* ($z=2.05$, $p<.05$) factors were also significantly different ($z=2.57$, $p<.05$). These results showed that motivations of *values of nature* play an important role for ongoing environmental volunteers to be involved in volunteer activities, while these motivations did not enhance the involvement of episodic volunteers. In addition, the connections between *social* to *attraction* ($z=2.41$, $p<.05$), to *centrality* ($z=2.39$, $p<.05$), and to *self-expression* ($z=2.59$, $p<.01$) dimensions had negative effects on episodic volunteers, but had positive effects on ongoing volunteers. These results indicated that social motivations such as influences from significant others or socialising with other volunteers are important factor for ongoing volunteers to get involved in volunteering.

On the other hand, all pathway from *leisure* motivation to each of the leisure involvement dimension positively and strongly worked for episodic volunteers, although these paths had no effects on ongoing volunteers. These results suggested that episodic volunteers need hedonistic leisure motivations to involve them in environmental volunteering, while these motivations had no impact on ongoing volunteers.

Links between leisure involvement and place attachment were no different between episodic and ongoing volunteers. This result indicated that both ongoing and episodic volunteers have same structures between the experiences of environmental volunteering that impact on place attachment.

Table 32: Comparison of regression weight between episodic and ongoing volunteers

		β		z score	
Path		Episodic	Ongoing		
AT	<- VLU	-3.32	0.63	2.11	*
CEN	<- VLU	-2.86	0.63	2.43	*
EXP	<- VLU	-3.37	0.40	2.05	*
EXP	<- CAR	-0.03	0.22	1.71	
AT	<- EHMT	-1.23	-0.78	0.14	
CEN	<- EHMT	-0.96	-0.78	-0.31	
EXP	<- EHMT	-0.41	-0.40	-0.10	
CEN	<- PRO	0.16	0.02	-1.66	
EXP	<- PRO	-0.12	0.23	2.50	*
AT	<- SOC	-1.28	1.07	2.41	*
CEN	<- SOC	-0.95	1.06	2.39	*

EXP	<-	SOC	-1.64	0.82	2.59	**
AT	<-	LEIS	5.51	0.51	-1.58	
CEN	<-	LEIS	4.26	0.51	-1.46	
EXP	<-	LEIS	5.15	0.23	-1.69	

		β		z score	
Path		Episodic	Ongoing		
PI <- EXP		-0.18	0.01	0.99	
PI <- CEN		0.78	3.17	0.68	
PD <- CEN		1.11	9.99	0.77	
PI <- AT		0.29	-2.28	-0.72	
PD <- AT		-0.16	-9.23	-0.78	

**p<.01 *p<.05

PI: Place identity, PD: Place dependence, AT: Attraction, CEN: Centrality, EXP: Self-expression, VLU: Values, CAR: Career, EHMT: Enhancement, PRO: Protective, SOC: Social, LEIS: Leisure

4.8.3 Alternative model.

As statistical weaknesses were found on the AVE and CR of the *social* and *leisure* motives, these two factors were removed, creating a new model. As the six-factor model demonstrated unreliable results, a four-factor model was created to discover if further stable results and insights could be identified from the data collected (Figure 10).

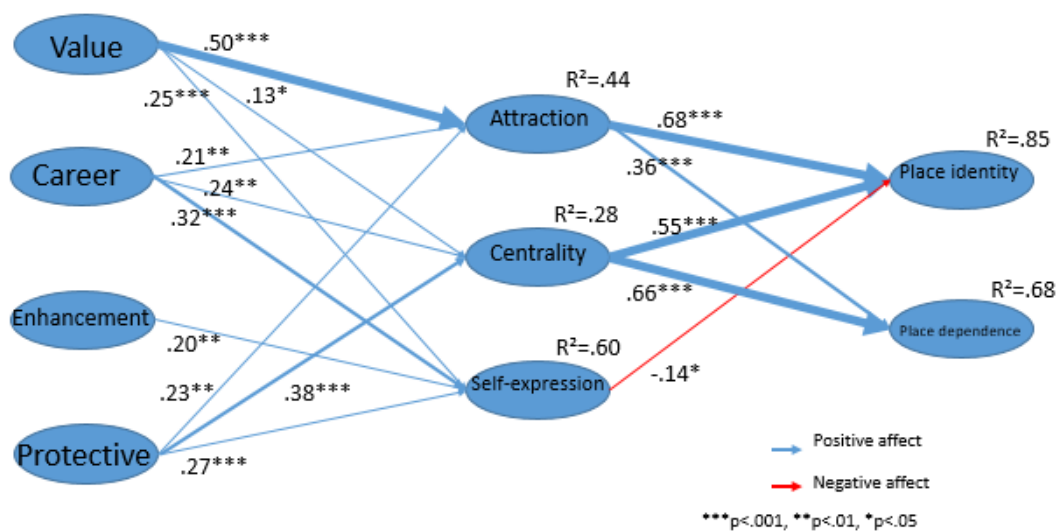


Figure 10: The Four Factor Model demonstrates regression weights and R^2 , in relation to all data collected from participants in this study.

The alternative model is titled the 'Four-Factor Model'. The results of goodness-of-fits indicated that the four-factor model was acceptable ($\chi^2=1078.224$, $df=409$, $\chi^2/df=2.636$, $CFI=.903$, and $RMSEA=.064$). Reliability and validity test were also performed. All AVE and CR were above the thresholds ($AVE>.50$, $CR>.70$) (Table 33).

Table 33: The result of reliability and validity test

Factor	AVE	CR
Motivation		
Values	0.599	0.856
Career	0.532	0.850
Enhancement	0.554	0.861
Protective	0.623	0.830
Leisure involvement		
Attraction	0.544	0.705
Centrality	0.673	0.805
Self-expression	0.516	0.762
Place attachment		
Place identity	0.674	0.861
Place dependence	0.695	0.901

AVE: Average Variance extracted.

CR: Composite Reliability

While the six-factor model had the issue of multicollinearity, the four-factor model resolved the issue, in which the correlations of exogenous latent variables were not significantly high (Table 34).

Table 34: Correlations of exogenous latent variables of the four-factor model

	VLU	CAR	EHMT	PRO
VLU				
CAR	0.231			
EHMT	0.465	0.564		
PRO	0.118	0.565	0.549	

Regarding the stage from antecedent to experience, strong positive relationships were found on the path between the factor of *values* and *attraction* ($\beta=.50$), *career* and *self-expression* ($\beta=.32$), and *protective* and *centrality* ($\beta=.38$). In addition, significant positive relationships were found on the pathway from the *values*, *career*, and *protective* factors to each of the leisure involvement dimension. By comparison, *enhancement* had only one significant connection, which was to *self-expression*. These

results suggested that in the four-factor model, values of nature, career, and protective factors had strong positive influences on leisure involvement. Generally, if considering only the VFI, it can be said that volunteer motivations in environmental volunteer settings predict positively the level of leisure involvement.

In terms of the relationship between leisure involvement and place attachment in the four-factor model, strong positive relationships were identified on the pathways from *attraction* to *place identity* ($\beta=.68$) and *place dependence* ($\beta=.36$), as well as from *centrality* to *place independent* ($\beta=.55$) and *place dependence* ($\beta=.66$). On the other hand, a significant negative relationship was found between *self-expression* and *place identity* ($\beta=.14$). Therefore, those volunteers who were highly motivated by volunteer motivations tended to feel pleasure or enjoyment and put volunteering as central in their central life, in turn, they felt more of the sense of place on the island where they volunteered.

4.8.4 Differences in the four-factor model between episodic and ongoing volunteers.

To investigate the difference in the four-factor VPM between episodic and ongoing volunteers, multi-groups analysis of structural equation modelling was conducted. The model fitness was acceptable ($X^2=1494.897$, $df=419$, $X^2/df=1.828$, and $RMSEA=.048$) except for CFI (.894). However, as the purpose of this analysis was to find out the differences between episodic and ongoing volunteers, the shortage of the fitness level was considered marginal.

As seen in Table 35, and Figure 11 and Figure 12, significant differences between episodic and ongoing volunteers were found on the paths from *values* to *attraction* ($z=3.03$), to *centrality* ($z=4.34$), and to *self-expression* ($z=2.65$), as well as paths from *enhancement* to *attraction* ($z=-2.74$), to *centrality* ($z=-2.03$), and to *self-expression* ($z=-3.46$). Specifically, *values of nature* had a positive and strong effect on leisure involvement of ongoing volunteers; however, it worked exclusively on episodic volunteers' involvement. On the other hand, *enhancement* influenced leisure involvement of episodic volunteers positively and strongly, whereas, it worked negatively on ongoing volunteers' involvement. These results suggested that altruistic motivations were important factors for ongoing volunteers to get involved; whereas, egoistic motives of self-enhancement were more important for episodic volunteers to commit to environmental volunteering.

Table 35: Differences of regression weight (β) of the four-factor model between episodic and ongoing volunteers

Path			Episodic		Ongoing		Difference	
			β	P	B	P	Z score	P
AT	<-	VLU	0.26	**	0.58	***	3.03	**
CEN	<-	VLU	-0.24	*	0.38	***	4.34	**
EXP	<-	VLU	0.06		0.35	***	2.65	**
AT	<-	CAR	0.03		0.17		0.91	
CEN	<-	CAR	0.02		0.21		1.21	
EXP	<-	CAR	0.12		0.33	**	1.24	
AT	<-	EHMT	0.40	**	-0.16		-2.74	**
CEN	<-	EHMT	0.29	*	-0.12		-2.03	*
EXP	<-	EHMT	0.63	***	-0.01		-3.46	**
AT	<-	PRO	0.15		0.17		-0.01	
CEN	<-	PRO	0.30	**	0.31	*	0.10	
EXP	<-	PRO	0.10		0.41	**	1.62	
PI	<-	AT	0.80	***	0.69	***	-0.30	
PD	<-	AT	0.50	***	0.45	***	-0.10	
PI	<-	EXP	-0.38	***	0.21	**	4.64	**
PD	<-	EXP	-0.21	**	0.28	**	3.98	**
PI	<-	CEN	0.59	***	0.25	***	-3.16	**
PD	<-	CEN	0.77	***	0.25	**	-4.38	**

***p<.001, **p<.01, *p<.05

PI: Place identity, PD: Place dependence, AT: Attraction, CEN: Centrality, EXP: Self-expression, VLU: Values, CAR: Career, EHMT: Enhancement, PRO: Protective

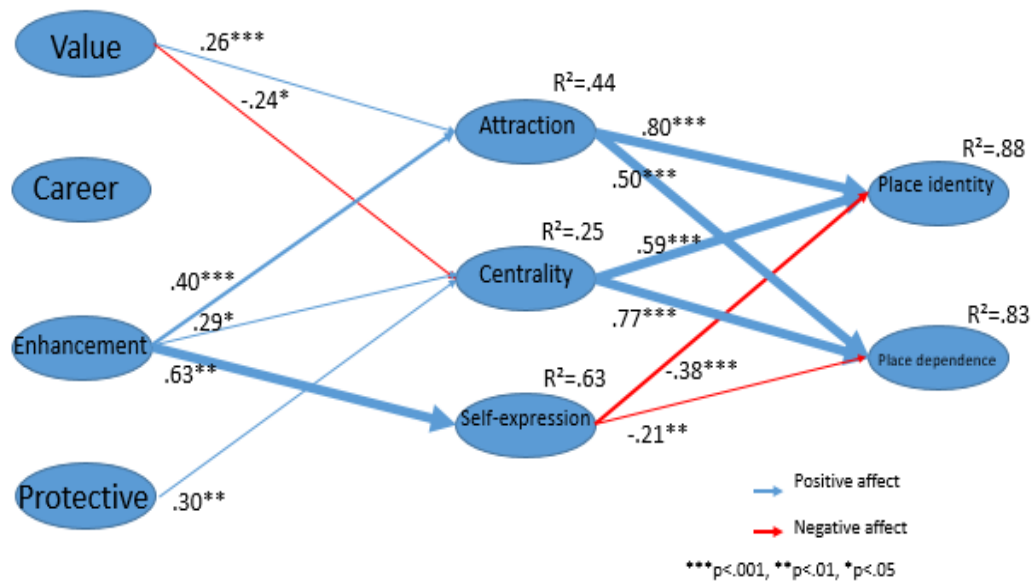


Figure 11: Results of the four-factor model of episodic volunteers

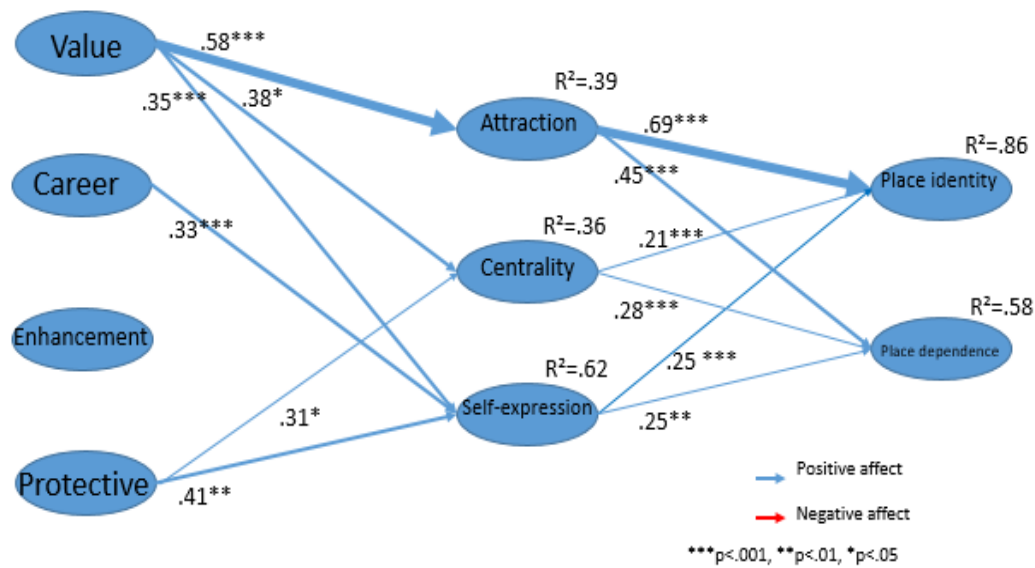


Figure 12: Results of the four-factor model of ongoing volunteers

Regarding the coefficient of determination (R^2), which represents the extent to which the dependent variable is predictable from independent variables, the R^2 of the *attraction* dimension of episodic volunteers was .44, and that of ongoing was .39. This indicated that the instant experience of attractiveness of volunteering was more influential on the motivations of episodic volunteers than those of ongoing volunteers. Conversely, the R^2 of centrality of episodic volunteers was .25, and that of ongoing volunteers was .36. This suggested that off-site experiences of the *centrality* dimension were more important for ongoing volunteers than for episodic volunteers.

In addition, the pathways between *self-expression* and *place identity* ($z=4.64$), between *self-expression* and *place dependence* ($z=3.98$), between *centrality* and *place identity* ($z=-3.16$), and between *centrality* and *place dependence* ($z=-4.38$) were significantly different. Episodic volunteers tended to be positively affected by *attraction* and *centrality* dimensions to feel place attachment; however, were negatively affected by *self-expression*. This result indicated that episodic volunteers who judged themselves failing to present themselves well in volunteering tended to feel a negative sense towards the place.

The R^2 of place dependence of episodic volunteers was .83, and that of ongoing volunteers was .53. These results indicated that the *place dependence* was more predictable for episodic volunteers than ongoing volunteers. In other words, episodic volunteers tended to recognise or focused on the facilities or attributes of the islands.

4.9 Summary of results and findings

This chapter addressed the objectives of this study: to identify the socio-demographic characteristics of the participants, and components of motivation and experiences including comparisons of episodic/ongoing differences and domestic/international differences. The proposed model based on the VPM was examined to identify the three stages of environmental volunteer experiences.

Descriptive analysis revealed that typical participants of this study were relatively young female who were New Zealand European or Asian living in Auckland. They were mostly employed (full-time or part-time) or students whose educational achievement was relatively high including those 30% who held a postgraduate degree. Also, household income was relatively high, in which 28% of the volunteer participants earned over \$NZ100,001 per annual.

The EFA identified six factors of environmental volunteer motivations; *values of nature, career, enhancement, protective, social, and leisure*. In general, *values of nature* and *leisure* were more important factors than other motivational factors. Comparisons between episodic and ongoing volunteers revealed that ongoing volunteers were highly motivated, especially by *values of nature* and *leisure*. On the other hand, these motivational factors were not different between leisure and tourist volunteers. Therefore, altruistic and hedonistic purposes cannot uniquely be allocated to either international tourists or domestic day-trippers.

The CFA for leisure involvement revealed that leisure involvement had three dimensions: *attraction, centrality, and self-expression*. This verified that environmental volunteering can be involved in as a leisure activity. *Attraction* was the most important experience for environmental volunteers, and *centrality* was the least. Ongoing volunteers showed higher leisure involvement in all dimensions than episodic volunteers. On the other hand, the difference between domestic and international volunteers did not affect the dimensions of leisure involvement. Therefore, frequent

participation plays more significant role in being involved than the distance of travelling to the volunteering site.

The CFA for place attachment verified that there were two factors of place attachment: *place identity* and *place dependence*. Generally, *place identity* was more important for the environmental volunteers than *place dependence*. Regarding comparison between episodic and ongoing volunteers, ongoing volunteers had higher place attachment than episodic volunteers. Frequent visitations might increase the sense of place attachment. However, there was no difference in either *place identity* and *place dependence* between domestic leisure volunteers and international tourist volunteers. This indicates that environmental volunteering in people from overseas does not increase or produce the sense of place attachment.

The structural equation modelling of the proposed model confirmed that the relationships between motivations (antecedents), leisure involvement (experiences), and place attachment (the consequence) were demonstrated. Specifically, *values of nature* and *social* factor affected leisure involvement dimensions positively, while *enhancement* and *leisure* influenced them negatively. That implies that motivations related to participants' surroundings tend to increase their involvement; however, on the other hand, motivations focused on themselves tend to decrease their involvement. The *centrality* dimension of leisure involvement was the strongest dimension affecting both *place identity* and *place dependence*. Regularly taking part in volunteer-related activities positively induces the sense of place attachment.

With regard to the comparison of the proposed model between episodic and ongoing volunteers, significant differences were found on the paths from *values of nature* and *social* factors to three dimensions of leisure involvement. That is, the *values of nature* of ongoing volunteers worked positively on their levels of leisure involvement, while their counterparts, the episodic volunteers, were negatively influenced by those values. Higher altruistic motivations increased ongoing volunteers' involvement, while they decreased episodic volunteers' involvement. In addition, social factors of the episodic volunteers negatively affected their leisure involvement; however, the social factors of ongoing volunteers worked positively on their level of leisure involvement. In other words, social influences from others work negatively on episodic volunteers, whereas ongoing volunteers prefer to expand their social networks through

volunteering. Finally, episodic volunteers were more likely to be affected by leisure motives including hedonistic purposes than ongoing volunteers.

As the proposed model indicated weaknesses of *social* and *leisure* factors as predictors of motivation, an alternative model was presented without these two factors. The model fitness, reliability, and validity showed better indicators. In the four-factor model, *values of nature* was the strongest factor affecting leisure involvement, followed by *career* and *protective*.

With regards to the differences between episodic and ongoing volunteers, ongoing volunteers had strong positive relationships between *values of nature* and three dimensions of leisure involvement; whereas episodic volunteers had strong positive relationships between *enhancement* and leisure involvement dimensions. Therefore, it can be said that ongoing volunteers are motivated by and interested in their surroundings; however, episodic volunteers are more motivated by, and interested in, their own benefits.

Table 36 displays the hypotheses tested and the results of this study.

Table 36: Results of the hypotheses

Hypothesis	The result
H1: Each dimension of leisure involvement of environmental volunteers at remote islands is positively affected by each dimension of motivational factor.	Rejected
H2: Each of place attachment dimension of environmental volunteers is positively affected by each dimension of leisure involvement.	Rejected
H3: The VPM accounts for the total relationships between motivations, leisure involvement, and place attachment of environmental volunteers.	Accepted

This chapter provided insights into the environmental volunteers in Hauraki Gulf in order to understand their characteristics and total experiences of volunteering. The next chapter explores the meanings of the findings with interpretations and implications.

Chapter Five: Discussion and implication

5.1 Introduction

This chapter focuses on the discussion and analysis of the results found in the previous chapter. The discussion is underpinned by the purpose of this study as identified in the introductory chapter. The discussion and implications are based on the data captured from the surveys and participation at eco-leisure/tourism sites and the participants' experiences. The study has found that environmental volunteers demonstrate specific socio-demographic and motivation factors. Differences in motivation will be discussed by comparing factors between episodic and ongoing participants as well as between domestic and international volunteers. The factors identified by the Volunteer Process Model (VPM) will be discussed in detail to identify the experiences and consequences of environmental volunteering in the eco-leisure/tourism context.

The first section of this chapter focuses on the socio-demographics of environmental volunteers and the various types of participant profiles. Section two discusses participant motivations to engage in volunteering as the antecedent stage of the VPM. Section three focuses on leisure involvement as the experience stage of the VPM, and the fourth section focuses on place attachment as the consequence of volunteering. The fifth section offers a discussion on the components of the VPM and includes the identification of six factors of motivation. Section six discusses the total volunteer experiences based on the VPM results, as well as the differences between episodic and ongoing volunteers. The conclusion provides an overview of the implications of these findings.

5.2 Socio-demographic characteristics of environmental volunteers in the Hauraki Gulf, New Zealand

The findings have identified that the socio-demographics of the participants were not homogeneous. The profile of participants showed various age groups, ethnicities, origins, education level, work status, and household income ranges. Participants were slightly female dominated (61.6%). This result was consistent with the Nowaczek and Smales' (2009) study in the ecotourism setting, volunteerism literature (Bussell & Forbes, 2002, Holmes & Smith, 2009), the study of international environmental volunteer tourists (Grim & Needham, 2012), and volunteer trends in New Zealand

(Volunteering New Zealand, 2015). This could be influence from ecotourism and volunteerism, in which females have a preference for participating. However, as seen in the cross tabulation of gender and age group, with an increase of age the ratio of male participants also increased. This result indicates that due to the physical requirement of environmental volunteering it is more challenging for elder females to participate in environmental volunteering.

Regarding age, younger generations under 50 years old were the main participants of this study (70.5%). This indicated that working age is the main population for environmental volunteering, in common with other types of volunteering (Holmes & Smith, 2009). In addition, the result of this study showed that volunteers in higher age groups tend to participate in volunteering more frequently than younger generations, which was consistent with the research of Volunteering New Zealand (2015). In other words, participants of this study are mostly from the younger generation; however, the older participants contribute more time to volunteering. While younger people are more likely to participate in volunteering, older people have a greater tendency to persist in volunteering due to higher time availability and income. These two groups can be the significant target markets, as Coghlan (2006) mentioned.

Ethnicities of this study showed that more than half of participants were New Zealand European, and about 20% were Asian. This result reasonably reflects proportions in the real population: the population of Auckland was around 55% European and 24% Asian in 2013 (Statistic New Zealand, 2013). According to Holmes and Smith (2009), people from minority ethnicities tend to have lower volunteering propensity. Dominant ethnicities are more likely to participate in volunteering (Bussell & Forbes, 2002).

As this study focused on mainly domestic volunteers, the ratio of international volunteer tourists was not high (13.8%). However, most international volunteers were in the 18-24 year-old age group. This age group is one of the main markets in international volunteer tourism (Grimm & Needham, 2012; McGehee & Wearing, 2013b).

In relation to education level, the results show that around 70% of participants had finished tertiary degree or higher education. This proportion would increase significantly if partial degrees were taken into account, as more than 20% of the

participants were students. This is considerably higher than the national attainment ratio of Bachelor's degree or higher in New Zealand, which was only 28% of 25-64 years old in 2014 (Statistics New Zealand, 2015a). This is partially consistent with previous study results in the USA that identify the minimum achievement of a college degree increases likelihood of volunteer participation (Brand, 2012), and that those with higher education tend to participate in volunteering more than those without (Wilson, 2000, 2012).

On the other hand, the result of household income showed a different tendency. The participants' household income in this study (NZ\$50,001-NZ\$80,000) was slightly lower than the national median household income (NZ\$84,700 in 2014) (Perry, 2015). This is probably because the participants were relatively younger generations including students who had lower household income. In addition, the partial supplement of the ferry fare from volunteer organisations might increase the ratio of participants who have low income. However, around 30% of participants earned over NZ\$100,001 household income, which is considerably affluent. These affluent volunteers were older and more highly educated.

The results of socio-demographics analysis revealed characteristics of the participants of this study. The main participants of this study can be categorised in three groups: 1) relatively young females who are students or workers living in Auckland and have low to medium income; 2) elder males who are either workers with high household incomes or retirees living in Auckland, and 3) international participants.

5.2.1 On-site volunteer experiences.

The on-site volunteer experiences were relatively short and episodic, and were affected by the locality and the requirements expected of volunteers on the different islands. The majority of participants engaged in volunteering on either Motutapu Island or Motuihe Island, which are located in the closest proximity to the departure terminal of ferries that service the islands of the Auckland region. Under the Department of Conservation management, both of the restoration programmes on these islands are in the initial stage of restoring native bush. Therefore, the most required tasks are planting and nursery which require less skills or knowledge. On the other hand, Motuora/Tiritiri Matangi Islands require some special skills or knowledge

to maintain the fauna environment, therefore the volunteers required are experienced and ongoing volunteers who can use or increase their skills and knowledge.

The results of the previous volunteer experience showed that the participants of this study were relatively inexperienced and episodic volunteers. In terms of length of volunteer experience, more than half of participants had less than one-year experience of environmental volunteering. This is because environmental volunteering requires less special skills or knowledge, and is therefore a type of volunteering in which young inexperienced volunteers tend to participate.

Similarly, around 60% of participants were episodic (less frequently than annual) volunteers, and 40% were ongoing (more frequently than quarterly) volunteers. This result was similar to previous research of student volunteers in five English speaking country, in which around 65% were episodic volunteers and 35% were ongoing volunteers (Smith et al., 2010). Also, in the current study there was a strong relationship between the length of volunteering and the age group as well as between the frequency of volunteering and the age group. That is, most of inexperienced or episodic volunteers were relatively young, while experienced or ongoing volunteers were older volunteers. This can be explained by the life stage differences that people in middle to later life stage tend to participate in more frequent volunteering (Wilson, 2000, 2012).

In terms of duration of volunteering and tasks undertaken, around 80% of participants engaged in one-day or a half-day projects, which did not require large time commitments. The findings identify that most of these participants were classified as day-trippers from a traditional tourism perspective. In contrast, international volunteers engaged in two- to three-week projects. The participants in these projects are categorised into *shallow* volunteer tourists in Callanan and Thomas' (2005) typology, in which volunteer tourists are young and relatively less skilled. The majority of participants engaged in tree planting (61.4%) or weeding (19.2%) jobs, which do not require any skills.

The participation party of volunteering indicated that environmental volunteering was a tool of enhancement of family bonding or friend relationships. As some scholars note, volunteer tourism activities contain educational components for children and can

provide a shared common goal with others, which increases social connection and camaraderie (Brown, 2005; Chen & Chen, 2011). In addition, considering that around 15% of participants were with their colleagues, environmental volunteering can be regarded as a good tool of team building.

5.2.2 Types of environmental volunteers based on the socio-demographics.

To sum up, volunteers' characteristics can be summarised into three sets: leisure volunteers, ongoing volunteers, and international volunteers (Table 37). Thus, environmental volunteers are not homogeneous, and their characteristics can be captured from leisure, volunteerism, and tourism perspectives, in which volunteers in each category show distinctive characteristics.

Table 37: Characteristics of environmental volunteer types

Characteristics	Leisure volunteer	Ongoing volunteer	International volunteer
Gender	Female>Male	Female=Male	Female>>Male
Age	Relatively young	Relatively old	mostly 18-24 years old
Household income	Low to medium	High	
Volunteer frequency	Episodic	Ongoing	
Volunteer experience	Inexperienced	Experienced	Mixed
volunteer location	Whaiheke, Motutapu, and Motuihe Island	Motuora/Tiritiri Matangi Islands	Motuihe Island and Kaitoki area
Volunteer tasks	Planting, weeding, and nursery	Planting, weeding, nursery, pest control, monitoring, and nesting	Planting and weeding
Task level	No special skills or knowledge inquired	Special skills or knowledge required	No special skills or knowledge inquired
Suitable participants	Day-trippers, students	Volunteers/serious leisure	Shallow volunteer tourists

Leisure volunteers are the largest group whose characteristics are relatively young female, who are working or students, well-educated, living in Auckland and therefore day-trippers to the island, and have low to medium household income. Their volunteer experiences are episodic and inexperienced. This kind of volunteer was also identified by Twynam et al. (2002). Most of them volunteered at Motutapu or Motuihe Island where planting, nursery, and weeding are the main volunteer tasks, requiring relatively

lower levels skill or knowledge. The second category of core participants of this study was ongoing volunteers. These volunteers have higher education levels and household incomes, and including a greater proportion of males than leisure volunteers. Ongoing volunteers were frequent volunteers as well as more experienced volunteers, mostly living in Auckland. Some of them volunteered at Motuora/Tiritiri Matangi Island where more specific skills and knowledge are required. These attributes can be seen in studies of serious leisure pursuits. The last category, international volunteers, were tourists from overseas, mostly young females and students aged under 25 years old. Considering the tasks and durations of the volunteering, these international tourists are labelled as the shallow volunteer tourists by Callanan and Thomas' (2005) study. These results confirm that participants of environmental volunteering can be assessed from leisure, volunteerism, and tourism perspectives, as identified by previous researchers (Holmes & Smith, 2009; Wearing, 2001; Wearing & McGehee, 2013b).

5.3 Motivational characteristics of environmental volunteers in the Hauraki Gulf New Zealand

While the results of the EFA and the CFA showed inconsistent outcomes of motivational functions of environmental volunteers, this study demonstrated that motivations of environmental volunteers can be addressed from both volunteerism and leisure perspectives. The result of the EFA of motivation revealed that the participants in this study were motivated by six factors: *values of nature, career, enhancement, protective, social, and leisure*. Thus, environmental volunteers in the Hauraki Gulf Islands clearly contained not only volunteerism but also leisure motivations. The results of this study showed some similarities and differences compared with previous research. Bruyere and Rappe (2007) and Ryan et al. (2001) found that '*helping the environment*' was the most important motivational factor of environmental volunteers. In this study, *values of nature*, which included helping and improving natural environment, was also the most important factor for environmental volunteers. This shows that altruistic motives are the main purpose of the participation in environmental volunteering. On the other hand, learning or understanding factor was not extracted as a factor in this study, instead these items were absorbed into *values of nature* or *leisure* factor. Participants of this study did not identify learning components of nature as strong as other factors. In the case of Gage and Thapa (2012)

also, *values* and *understanding* were included together in the first factor of student volunteers. In addition, Otoo and Amuquandoh (2014) found altruistic motivations and learning opportunities were categorised in the same factor of push motivations for international volunteers, and concluded that “altruism goes hand-in-hand with learning as volunteers” (p. 55). This phenomenon might happen because of the eco-leisure/tourism settings where learning and nature-based activities are contained as the primary components rather than just environmental volunteering in their daily space.

While *leisure* was the weakest factor of the six factors, it was the second highest motivator. This result indicated that participants of this study presumed that environmental volunteering on the island in the Hauraki Gulf contained hedonistic leisure components such as having fun or opportunity to enjoy a day out rather than just volunteering. This result was also supported by the findings of Bruyere and Rappe (2007) that the motivational factors of environmental volunteers contained user or visitor perspectives at the place where they volunteered. As such, environmental volunteers had not only altruistic motivations but also hedonistic motivations to participate at the specific place where they volunteer.

On the other hand, the *career* or *protective* factors were relatively less important for the participants of this study. Environmental volunteers in the Hauraki Gulf did not consider volunteering as a tool of career enhancement or self-protection. Considered that Bruyere and Rappe (2007) demonstrated the similar outcomes from environmental volunteers, environmental volunteers do not expect that the environmental volunteering is not useful to enhance their career opportunities or care for their negative feeling.

Unlike previous volunteer tourism research, specific items regarding international experiences were not included in the survey, as this study focused on domestic volunteers. As a result, assumed motivators such as cultural or historical experiences could not be scaled. However, outside of those motivations, some commonalities of international volunteer tourist motivations were found. For example, Lo and Lee (2011) found that socialising with friends and family, escapism, and desire to help were distinct motivators for international volunteer tourists, which were correspondent with *social*, *protective*, and *values of nature* motivators in this study. In addition to

these motivations, Wearing (2001) mentioned other motivators such as personal growth and professional development which were similar to *enhancement* and *career* in this study. Therefore, it can be concluded that these motivations are common factors for both domestic and international environmental volunteers.

5.3.1 Comparison of motivations between episodic and ongoing volunteers.

Ongoing volunteers, who participate in volunteering more frequently than quarterly, had higher motivation than episodic volunteers in all motivational factors. Specifically, *values of nature* was the most distinct difference of motivation between ongoing and episodic volunteers, followed by the *leisure, career, and social* factor. On the other hand, there was only a small difference between the two groups in the *protective* and *enhancement* motivational factors. Ongoing volunteers were highly motivated by *values of nature*, which was consistent with Smith's et al. (2010) and Allison, Okun and Dutridges' (2002) study. The result of this study indicated that altruistic purposes and learning components are vital elements to keep volunteers frequently participating in environmental volunteering. Surprisingly, *career* was a more important motivator for ongoing volunteers than episodic volunteers. According to Smith et al. (2010), *career* is not recognised as a motivation for ongoing student volunteers, although it is recognised as a benefit. In the current study, the participants included more working people rather than just students. Also the survey instrument of this study was modified to fit the study context in which some companies used environmental volunteer activities as a corporate social responsibility activity. In addition, ongoing volunteers who were working could find the utility of volunteer experiences when they can utilise them in their work situation. Therefore, ongoing volunteers might consider *career* as an important function of volunteering.

Ongoing volunteers also showed higher *leisure* motivations than episodic volunteers. It indicated that ongoing environmental volunteers expected the volunteer activity on the island to be leisure attraction rather than just volunteering. This result suggested that altruistic purposes and leisure motivations can be included as motivators rather than excluded in ecotourism settings. This result was in contrast to previous volunteer tourism research that pointed out the dichotomy of altruistic and egoistic motivation (e.g. Andereck et al., 2012; Brown, 2005; Callanan & Thomas, 2005). In environmental volunteering contexts, altruistic purposes and hedonistic purposes can coexist, as

Wearing and McGehee (2013b) assert. In other words, ongoing volunteers focus on and are interested in the natural environment surroundings, and therefore they can enjoy the volunteering contexts.

Protective and *enhancement* factors were both relatively less important for both episodic and ongoing volunteers. In addition, the difference between episodic and ongoing volunteers was also small when compared to other factors. The result indicated that while environmental volunteering did not serve as self-protective or self-enhancement functions, episodic volunteers tend to put more importance on these factors. This is partly supported by Smith et al. (2010), in which non-volunteers or occasional volunteers indicated that volunteering serves a protective function for example identifying themselves as more fortunate than others.

As such, ongoing volunteers are relatively motivated or influenced by external factors such as natural environment, career context, or social networks. On the other hand, episodic volunteers are motivated by internal factors such as self-development or self-protection.

5.3.2 Comparison of motivational factors between domestic and international volunteers.

The findings identified significant motivational differences specifically on *career*, *social*, *enhancement*, and *protective* between domestic and international volunteers. As discussed in the socio-demographic section of participants, most of international volunteers were young aged 18 to 24 years old. These international volunteers put emphasis on *career* motivations such as C.V. or skills improvement, self-enhancement or self-esteem motivations, and *protective* motivations including escaping from negative feeling. In other words, international volunteers tended to focus on 'self'-development rather than 'other'-development. There is no comparison of motivation between international and domestic volunteers in literature. However, as Wearing (2002) note, volunteer tourists have motivations underpinning "self" which focuses on "self-development, a way to broaden the mind, experience the new and different and return in some way enriched" (p. 224). The result in this study suggested that international volunteers had stronger sense of "self" more than domestic volunteers.

On the other hand, domestic volunteers were motivated by social influences such as friends and family members, while international volunteers were not affected by social surrounds. This may be partly because domestic volunteers had more friends or family members who had volunteered on the island. In other words, the social norm of participation in volunteering encouraged them to volunteer. In contrast, as international volunteer tourists often prefer off beaten track (Ooi & Laing, 2010), they do not want to follow the same path with others. This result also suggested that international volunteers were not inclined to be influenced through word-of-mouth which was regarded as one of the most important marketing tools in tourism industry. So that, it can be concluded that social norm can be an important marketing tool for domestic volunteers, whereas, not so effective for international volunteers.

Interestingly, *values* and *touristic* motives were not significantly different between domestic and international volunteers. While these two factors were the most important motivators for environmental volunteers, international volunteers were motivated by *values* and *leisure* motivations slightly more than domestic volunteers. According to Mody et al. (2014), both domestic and international responsible tourists had same level of responsibility representing sense of giving back to the community or contribution to the community. These result suggested that the origin of participants did not affect the desire of doing good or giving back to others.

Table 38: Description of motivational differences between episodic and ongoing, and international volunteers.

	Episodic	Ongoing	International
Motivational description	Less motivated than ongoing in all motivation factors. However, relatively high in protective and enhancement factors.	Highly motivated than episodic volunteers, especially value, touristic, social, and career factor.	Focussing on "self". Highly motivated by career, enhancement, and protective factor. Less motivated by social factor than domestic volunteers.

To sum up, ongoing volunteers were highly motivated by all motivational factors compared to episodic volunteers. Specifically, *values* and *leisure* were the most prominent different between episodic and ongoing volunteers. On the other hand, *protective* and *enhancement* were not significantly different. These factors were relatively important for episodic volunteers. In terms of international and domestic

comparison, international volunteers tended to focus on “self” such as *career*, *enhancement*, and *protective*. In contrast, domestic volunteers were likely to be motivated by *social* influence (Table 38).

5.4 Experiences of environmental volunteers in the Hauraki Gulf New Zealand

As the results of leisure involvement have demonstrated, *attraction* was the most important dimension compared to other two dimensions; *centrality* and *self-expression*. This indicated that pleasure or enjoyment of volunteering was the most important experience rather than the other experiences including placing volunteering in the central daily life or identity modification by volunteering. As *attraction* is often induced by the actual participation (Gross & Brown, 2008), the experience on the day volunteered was the most significant element to evaluate whether the volunteering was considered an attractive experience.

On the contrary, *centrality* was identified as the least important experience by participants. Environmental volunteering did not play a central role in the life majority. For example, they may not talk about environmental volunteering to other people, or involve friends or relatives in a participatory environmental volunteering experience. *Self-expression* was relatively positive response. Participants expressed that the experience of volunteering, on site and outdoors, was a way to enhance their own feelings of heightened self-esteem and personal self-value. These results were consistent with previous research (Havitz & Dimanche, 1997). Kyle et al. (2004) found the similar in an Appalachian Trail study; in which users of the trail put importance on the *attraction* dimension and less importance on the *centrality* dimension. In this case, *attraction* is the most important experience for volunteer involvement at the eco-leisure/tourism settings.

5.4.1 Comparison of leisure involvement dimensions between episodic and ongoing volunteers.

The results of comparison of leisure involvement dimensions revealed that ongoing volunteers indicated higher involvement in terms of all three dimensions; *attraction*, *centrality* and *self-expression*, than episodic volunteers. Ongoing volunteers felt more attractiveness of environmental volunteering, put volunteering in the centre of their

file, and present themselves as volunteers. These attributes of ongoing volunteers overlapped with the characteristics of serious leisure participants identified by Huang et al (2014) and Tsuar and Ling (2008), in which participants of serious leisure have characteristics of devoting more time and money to a leisure activity as the focus of their life. As mentioned in the limitation of this study, measurements of serious leisure were not included in this study due to the space limitation of the survey instrument. However, the ongoing volunteers of this study have the characteristics of serious leisure as the behavioural tendency of leisure involvement indicated as serious leisure perspectives.

5.4.2 Comparison of the leisure involvement dimensions between domestic and international volunteers.

As seen in the previous chapter, there was a significant difference only on *self-expression* between international volunteers and domestic volunteers. International volunteers recognised environmental volunteering as a way of express themselves by means of talking about volunteering, presenting their challenges, to find out their identity, or simply show what they do to others. These results concur with previous studies, in which discovering who they are or what they do is one of the most important experiences of volunteer tourism (McIntosh & Zahra, 2008; Sin, 2010). Also Wearing and Deane (2003) note, experiences of international ecotourism/volunteer tourism are the best outdoor recreation to understand, develop, and display themselves especially for young travellers who want to challenge new things. Considering the demographics of the international volunteers in this study, for young international volunteers the *attraction* and *centrality* dimension of leisure involvement were not remarkable, however, the *self-expression* dimension played a significantly important role for them.

As such, volunteer experiences of leisure involvement were influenced by the frequency of volunteering more than the distance from home. However, those who participate in volunteering from far distance tend to use the experience as a tool of self-expression.

5.5 The consequence of volunteering

The consequence of volunteering includes both psychological and attitudinal changes of place attachment. As volunteerism researchers have pointed out, residents often feel attachment to community as the consequence of participation in volunteering (Donder et al., 2012; Mihaylov & Perkins, 2014). In this study, two dimensions of place attachment, *place identity* and *place dependence*, were used to scale participants' attachment to the island where they volunteered. *Place identity* was rated higher than *place dependence*. Environmental volunteers felt symbolic identification with the island, while they considered that the island did not facilitate their specific activities well. Volunteers might consider that the island was suitable for volunteering, whereas not suitable for recreational activities. The result suggested that volunteers focused on the meaning of what they had done rather than the functionalities of the island. This was the same result as Moore and Graefes' (1994) study of environmental volunteering. That is, environmental volunteering tends to induce affective and symbolic attachment rather than the importance of functional and cognitive attachment.

5.5.1 Comparison between episodic and ongoing volunteers.

In terms of the comparison between episodic and ongoing volunteers, place attachment of ongoing volunteers was higher than that of episodic volunteers. The ongoing volunteers felt more identification with the island. While there is no study of comparison of place attachment between episodic and ongoing volunteers, Lewicka (2011) summarised that the time spent in a place was the best predictor of place attachment. In addition, according to Ryan and Grese (2005), this is because increased visitation grows familiarity to the place resulting in feeling the sense of security and home. As ongoing volunteers had frequency visitations and put more efforts on the island than episodic volunteers, these elements produce the sense of ownership leading place attachment.

Within place attachment, *place identity* was affected more strongly by the frequency of participation in volunteering than *place dependence* was. This result indicated symbolic meanings of *place identity* was strengthened by the frequency of participation in volunteering, hence physical features of *place dependence* was not enforced by frequency of visitations in the same ratio.

5.5.2 Comparison between domestic and international volunteers.

As long as the difference between domestic and international volunteers is concerned, there was no significant difference of both *place identity* and *place dependence*. The distance from home was not affected to the sense of place. This result did not coincide with the study done by Panisa et al. (2009), in which domestic tourist had more attachment to the destination than international tourists did. However, according to Scannell and Gifford (2012, 2014) and Gustafson (2014), people tend to feel less attachment to the place where are apart from home due to lack of security and physical proximate, instead they are inclined to feel more attachment to their home. The settings of this study were remote islands where no participants lived. In this sense, all volunteers were 'away' from home, which made participants feel less place attachment.

While there was no significant difference of *place identity* between domestic and international volunteers, international volunteers showed slightly higher attachment than that of domestic volunteers. This result suggested that even the place was far from their familiar place, by doing environmental volunteering they found symbolic meaning of and felt more identification to the island. Therefore, environmental volunteering may increase their affective attachment to the place. However, further research is needed to compare those who have volunteered in the island and those who have not.

5.6 Constructs of motivations and experiences

Confirmatory factor analyses were conducted to address objectives 2) and 3) which were to identify the constructs of motivations of environmental volunteers and experiences in terms of leisure involvement and place attachment. While the result of the CFA of motivations revealed that environmental volunteers had six factors, one of the factors, *leisure* was relatively weak and vague in terms of the validity and reliability as seen in the ratio of AVE and CR. In addition, the *social* and *leisure* motivations included only two items. These results indicated that social and leisure motivations were regarded as factors of motivation of environmental volunteers, however, items scaling motivations might not properly present the factors. As Brayley et al. (2014) noted, the social functionality in the VFI, for example, was to scale the importance "to adhere to the normative influence of important others or for companionship" (p. 5),

which focused on influences from others. On a contrary, social motivation in tourism literature often focused on socialising, making new friends or enhancing camaraderie with family member or friends by volunteering together (e.g. Brown, 2005; Otoo & Amuquandoh, 2014). As environmental volunteers indicated that they had volunteer and leisure motivations, items scaling both components simultaneously should be investigated.

On the other hand, *values*, *protective*, *enhancement*, and *career* from the VFI were strongly extracted as motivational factors. *Values* or *career* were specific motivations for volunteers rather than tourists. These results suggested that the participants in this study were more volunteer-minded rather than tourist-minded even they volunteered at the remote islands.

The CFA for leisure involvement acknowledged that environmental volunteering contained three dimensions of leisure involvement, which supported previous studies. This results indicated that environmental volunteering can be one of leisure activities for participants as same as kayaking, scuba diving, golf, tennis, and camping (Backman & Crompton, 1989; Dimanche, Havitz & Howard, 1991; McIntyre, 1989). Therefore, environmental volunteering in the island can be developed from the leisure/tourism perspectives in its management.

In regard to place attachment, two dimensions of place attachment were extracted as same as previous research (Kyle et al., 2003; Moore & Graefe, 1994; Prayag & Ryan, 2012; Williams & Roggenbuck, 1989; Williams & Vaske, 2003; Yuksel et al., 2010). This result was an evidence of that environmental volunteers showed the same pattern of place attachment as other tourists. However, as Kaplan and Kaplan (2006) mentioned, it was not clear whether the participants of environmental volunteers feel more attachment to the place than other visitors do, due to the volunteer work for the place.

5.7 Volunteer Process Model

This study identified the new compositions of the VPM of environmental volunteers at the eco-leisure/tourism contexts, in which motivations, leisure involvement, and place attachment were used on each stages of the process model. Previous research have focused on motivations, satisfaction toward volunteering, and duration of volunteering

in each stage of the VPM (Davila, 2009; Omoto & Snyder, 1995). However, as environmental volunteering on islands contains some specific attributes; positive and actual participation toward the natural environment, visible consequences after volunteering, and being conducted at eco-leisure/tourism destination, these attributes were taken into the model. The results of the structural equation modelling showed good fitness levels and proved that environmental volunteers have three related stages of volunteer experiences; motivations as the antecedent, leisure involvement as the volunteer experience, and place attachment as the consequence. The place attachment of environmental volunteers can be explained by the level of leisure involvement which are determined by motivations toward environmental volunteering. As such, the VPM can be applied to environmental volunteers in the eco-leisure/tourism contexts.

5.7.1 The relationship between antecedents and experiences in the six-factor model.

The results of the SEM of the six-factor model showed that the social influences and altruistic purposes were the most influential factors to volunteer involvement (see Figure 9 in previous chapter). The *social* factor was the strongest positive predictor of each leisure involvement dimension. As Havitz and Dimanche (1997) mentioned, leisure involvement includes on-site and off-site involvement. *Social* factor influenced to both on-site and off-site strongly, in which participants might feel pleasure or enjoyment of volunteering with other volunteers as an on-site experience, as well as engage in volunteer related activities in their daily life through their social networks. They also feel volunteering as a means of self-expression by on- and off-site volunteer activities. These results were partly consistent with the study of Lu and Schuett (2014). In their study, social motives of volunteers in outdoor recreation associations had positive influences to each of involvement dimension, in which the centrality dimension was predicted the strongest. However, in the current study, *attraction* dimension was the most predictable by *social* motivations. This was probably because participants directly engaged in the activities they were interested rather than just being a member of the volunteer associations.

Other positive influence was found on the path from *values* to *attraction* and *self-expression*. Altruistic motives predicted the enjoyment of volunteering, and doing something good played an important role of representing themselves. This result was

partly because of the specific attribute of environmental volunteering on the island in which participants can fulfil their altruistic purpose by doing volunteering and leisure activity simultaneously. According to Lu and Schuett (2014), while volunteers in outdoor associations also had compassion toward nature or intention to help to sustain nature, these motivations did not affect the *attraction* dimension. This may be due to the different objects of volunteering. Environmental volunteers contribute directly to the resources for their activities, while volunteers in the recreational associations volunteer to the organisations. This result can be distinctive of environmental volunteering at eco-leisure/tourism destination.

In contrast with positive affects to leisure involvement, some motivational factors indicated negative influence toward leisure involvement. For example, the *leisure* motivation was negatively affected all leisure involvement dimensions. Also *enhancement* negatively worked for the *attraction* and *centrality* dimensions. These results indicated that egoistic motives of *leisure* and *enhancement* had incompatible functions toward *values of nature* and *social* in terms of relationship with leisure involvement. In other words, those volunteers who are highly motivated by the *leisure* and *enhancement* factors tend to be dissatisfied with their leisure involvement experiences.

5.7.2 The relationship between leisure involvement and place attachment.

The structural equation model revealed the relationship between the experience stage and the consequence stage of the VPM. The *attraction* dimension and *centrality* dimension positively affect *place dependence*. Enjoyment or pleasure of the volunteer activities on the island was strongly connected to the attributes of the island. This result suggested that the volunteer activity cooperating with enjoyment or interests on the island was perceived as one of the distinctive attributes of the island. Also pre- or after-trip experiences of volunteering on the islands in their daily life increase possibility to gain information about the island's particular attributes.

Also the *centrality* dimension had positive relationship with *place identity*. It suggested that the experiences related to environmental volunteering in the daily life induce and increase affective or symbolic sense to the islands they volunteer. This is also supported other researchers that *place identity* tended to be affected and developed

over time by repeat recognitions and visitations to the place (Moore & Graefe, 1994; Williams & Vaske, 2003).

On the contrary, the path from *attraction* to *place identity* was negative effect. This result was inconsistent with other previous research (Jiang et al, 2014; Kyle et al., 2003, 2004). This is partly because the SEM explains total relationship in the model, in which negative effects from *leisure* and *enhancement* factors affected on the relationship between *attraction* and *place identity*. In addition, as Moore and Graefe (1994) mentioned, *place identity* tends to be induced by *place dependence*. In other words, *place identity* takes more time to be influenced compared to *place dependence*. Therefore, instant emotions of attraction on the site might be fluctuating and work negatively to *place identity*. In fact, the *centrality* dimension which included sequence time of involvement indicated strong positive relationship with *place identity*. Connection to the island over the time within their daily life increase the identification with and symbolic meaning of the island. Gross and Brown (2008) also found the same result that centrality to the life was the strongest predictor of leisure involvement scales.

To sum up, *place dependence* was well predicted by *attraction* and *centrality* which were positively predicted by the *values of nature* and *social* factor. That is, those who were motivated by altruistic purposes and social influences tended to be more involved in the activities in terms of attractiveness and central role in their life. Those experiences increased their attachment to functional or cognitive attributes of the island. On the other hand, negative influences were found from *leisure* and *enhancement* to *attraction*, and to *place identity*. Those who had higher hedonistic and egoistic motives tend to negatively incorporate with *attraction*, which ended up negative *place identity*. For environmental volunteers, hedonistic and egoistic motivations were opposing to altruistic and social purposes toward leisure involvement and place attachment.

5.7.3 The difference of the VPM between episodic and ongoing volunteers.

Significant differences between episodic and ongoing volunteer have been identified on the paths from *values of nature* and *social* to three dimensions of leisure involvement on the six-factor model. Interestingly, *values of nature* negatively affected leisure involvement for episodic volunteers, whereas positively influenced to leisure

involvement of ongoing volunteers. This result showed that altruistic purposes of episodic volunteers did not produce the better experiences to get them involved in volunteering. On the other hand, *values of nature* motives of ongoing volunteers positively increased the sense of enjoyment of activities, gave opportunities to talk about environmental volunteering in their network, and helped to increase their identity with volunteering. In this regard, experiences of ongoing volunteers are altruistic driven, while those of episodic volunteers are not.

Similarly, social influence negatively worked for leisure involvement of episodic volunteers, whereas, positively worked for ongoing volunteers. As the *social* factor in the VFI mainly scales influences from their social networks or normative groups, episodic volunteers might feel these social influences as obligations to volunteer or force to volunteer from others. This result was consistent with Clary and Synders' (1999) and Finkelstien's (2009) consideration in which less experienced volunteers need to be more autonomy to participate in volunteering rather than mandatory volunteering such as requiring students to engage in volunteering for the university credit. On the contrary, ongoing volunteers were encouraged to volunteer within their social network by talking each other and expressing themselves. Also Otoo and Amuquandoh (2014) concluded that "volunteers' motivations appeared to have shifted from a more altruistic orientation to a more socialisation centred motivation" (p. 56). Therefore, it can be concluded that hence altruistic motives and social influences are important motivator for volunteers, the social factor is the more important predictor for experienced volunteers to get themselves involved in volunteer activities.

Other important differences were found on the paths from *leisure* motives. The *leisure* motivations of episodic volunteer affected positively to leisure involvement, hence, those of ongoing volunteers were not significantly effective. This result suggested that episodic volunteers focus on *leisure* motives to be involved in volunteer activities, whereas, ongoing volunteers did not need *leisure* motives to be involved. These results were consistent with the Otoo and Amuquandohs' (2014) implication that "volunteers who spend shorter duration in the country have stronger motivation for travelling than those who stay longer" (p. 56). Also, Lepp (2008) concluded that experienced volunteer tourists were involved in the activities in which they can find more relationship with "others" such as helping other people rather than "self" such as self-

development. In other words, experienced volunteers tend to focus on outer world to get involve themselves in volunteering rather than inside of themselves.

To sum up, episodic volunteers are more influenced by *leisure* motivations, whereas ongoing volunteers are affected by the *values of nature* and *social* motivations to get them involved in volunteering.

5.7.4 Alternative model.

An alternative model was proposed to reduce the weakness of statistic errors (type II error), which contained four factors of motivations; *values of nature*, *career*, *enhancement*, and *protective*. The four-factor model indicated more stable statistical results in terms of AVE and CR. The four-factor model clearly demonstrated that each motivation factor played a distinct function toward leisure involvement which also had specific connection to each place attachment dimension.

As same as the six-factor model, the four-factor model showed that *values of nature* strongly predicted the *attraction* dimension of leisure involvement. It was also proved that altruistic purposes of volunteers played a vital role for the experiences of pleasure, interests, and enjoyment rather than any other motives. In other words, those who had higher *values of nature* motives tended to enjoy environmental volunteering. Not only *attraction*, but also *centrality* and *self-expression* in leisure involvement were positively affected by *values of nature* motives. Thus, *values of nature* are the most important motivations for environmental volunteers.

Career also was an important predictor of leisure involvement in four-factor model. However, it affected *self-expression* the most strongly of the three dimensions. Participants may present themselves as a volunteer to present their ability or performance in their career development, for example presenting on their C.V., leadership, or other social skills. On the contrary, influences of *career* motives to *attraction* and *centrality* were relatively weak. Volunteers who are career-oriented tend to have less enjoyment and put less importance on their daily life. Considered that the *career* motivations and the *self-expression* dimension were distinctive elements for international volunteers, *career* may be the most powerful motivator for international volunteers to take an actual participation in volunteering abroad.

Protective was also significant predictor of leisure involvement. Specifically, the relationship between the *protective* motivation and the *centrality* dimension was the strongest. As *protective* represents desires escaping from negative feelings in their daily life by volunteering, those volunteers who have the escaping desires are more likely to think of volunteering regularly as a stress remover. With this regard, the protective motives play a central role in their life.

With respect to the relationship between leisure involvement and place attachment, *attraction* and *centrality* influenced positively to both *place identity* and *place dependence*. Specifically, *attraction* had a strong relationship with *place identity*, and *centrality* impacted on *place dependence*. Direct experiences of environmental volunteering can increase affection to the eco-leisure/tourism settings, whereas related experiences in daily life can increase the recognitions of the place. In other words, enjoyment or pleasure of physical contribution to the land enhanced connectedness to the islands. In addition, frequent awareness of the island through the social networks also strengthen the sense of place.

5.7.5 Differences of the alternative model between episodic and ongoing volunteers.

Comparisons between episodic and ongoing volunteers in the four-factor model showed some commonality with the six-factor model. The *enhancement* motives of episodic volunteers were more strongly associated with leisure involvement than other motivational factors. Self-esteem or sense of being needed was important elements to have better on-site and off-site experiences of volunteering. In other words, episodic volunteers needed more self-centred motivations to get them involved in volunteering. On the contrary, ongoing volunteer did not need it or even they gained less involvement if they had self-centred motivation. On the other hand, *values of nature* was the strongest predictor of leisure involvement for ongoing volunteers in the four-factor model too. Ongoing volunteers tend to need more altruistic purposes to be involved. This was the same result as the six-factor model. Therefore, it can be stated that ongoing volunteers are more altruistic oriented in terms of their volunteer commitment.

The results from the six-factor model and four-factor model suggested that episodic volunteers were influenced by endogenous motivation factors such as *leisure* or *enhancement* to be involved in volunteering. On the other hand, ongoing volunteers

were affected by exogenous motivation factors such as *values* or *social*. Similarly, previous research identified that volunteer tourist motivations can be categorised into personal and interpersonal factors (Chen & Chen, 2011; Pan, 2012). The results of this study not only supported this previous research but also gave further insights of how endogenous and exogenous motivations act on actual leisure involvement in volunteering.

Regarding the relationship between the experience stage and the consequence stage, four-factor model had differences from the six-factor model. While six-factor model did not reveal the difference between episodic and ongoing volunteers, the four-factor model showed significant differences on the path from *centrality* and *self-expression* to both *place identity* and *place dependence*. Specifically, the *self-expression* dimension of episodic volunteers negatively affected *place identity* and *place dependence*. On the contrary, these of ongoing volunteers influenced to place attachment positively. This indicated that ongoing volunteers might feel good at expressing themselves while volunteering, which ended up higher place attachment. Whereas, episodic volunteers felt that they could not express themselves as much as they expected by participating in volunteering. This negative experience may end up less place attachment to the island.

Moreover, episodic volunteers had stronger path from *centrality* to place attachment than ongoing volunteers did. When episodic volunteers felt that they did something related to or talked about volunteering in their usual file, that experience considerably affected to their attachment to the island. So that it may be a good solution for increase their place attachment that the volunteer organisers ask them to give feedback after volunteering. Compared to episodic volunteers, the sense of *centrality* did not affect place attachment as same as episodic volunteers did. For ongoing volunteers, to do or talk related volunteering in their daily file may not be so specific things to connect them to the island.

To sum, *enhancement* was significantly important motivation for episodic volunteers, which affected *self-expression*, *attraction*, and *centrality* in leisure involvement. On the other hand, *values* was the most important for ongoing volunteers, which considerably predicted all of leisure involvement dimensions. Also, for episodic volunteers,

attraction and *centrality* were equally important toward place attachment, while *attraction* was the best predictor of place attachment of ongoing volunteers.

5.8 Conclusion

This study revealed specific attributes of environmental volunteers in the Hauraki Gulf in order to achieve the purpose of this study; to identify characteristics of environmental volunteers. The results and findings of the study showed three types of volunteers; leisure volunteers, ongoing volunteers, and international volunteers. While the categories were not independent in this study, they had distinct characteristics in terms of socio-demographics, motivations, leisure involvement experiences, and place attachment as the consequences. These findings have been identified separately or individually in previous studies. However, the current study identified that environmental volunteering at an eco-leisure/tourism destination includes all these three types of participants represented by socio-demographic characteristics, which reflect volunteerism, leisure, and tourism perspectives. In addition, the findings of this study indicated that these three types of volunteers have specific volunteer experience processes which have different relationship between motivation, leisure involvement, and place attachment in each volunteer type.

Leisure volunteers can be described as relatively younger, inexperienced, and female dominant as well as episodic participants. Their volunteer activities were mainly tree planting and nursery work which did not require any special skill, therefore suitable for leisure-minded volunteers. Motivations of *enhancement* and *protective* were relatively important specifically for episodic volunteers. Episodic volunteers were internal-motivated rather than external-motivated. They were not involved in volunteering activities compared with ongoing volunteers in terms of being less attracted, less related to volunteering in their daily life, and less presented by volunteering. As a result, they had less connection to the island where they volunteered in both affective and cognitive attachment than ongoing volunteers.

On the other hand, ongoing volunteers were relatively old, and both male and female experience volunteers who had sufficient knowledge and skills. Therefore, their volunteer tasks included, for example, pest control, monitoring, and nesting as well as tree planting, which partly overlapped with serious leisure activities. Their motivations

toward environmental volunteering were generally higher than episodic volunteers, which included the *values of nature* and *leisure* motivations. It may be because ongoing volunteers could afford to enjoy volunteering, as they knew how much they can expect and enjoy the environment. They regarded their volunteer experiences more positively than episodic volunteers. They felt more enjoyment or pleasure while volunteering, did something related to volunteering or talked about volunteering in their daily life, and presented themselves as a volunteer. As the consequence, they recognised the island as the place providing specific opportunities as well as identifying the importance of the locations for self-identity.

International environmental volunteers were mostly young, however, included both experience and inexperience. Their activities were mainly tree planting and weeding, which did not require any skills and knowledge. Considering their engagement period of volunteering, they can be categorised as the shallow volunteer tourists. The most important motivator for international volunteers was *career* followed by *enhancement*. They considered volunteering to be more pragmatic means for self-developments. They recognised environmental volunteering in the Hauraki Gulf as an important opportunity for self-expression. It suggested that the experience of volunteering abroad may be a way of which they can be proud.

The theoretical model hypothesised based on the VPM were examined in terms of the relationship including six motivational factors, three dimensions of leisure involvement, and two dimensions of place attachment, which identified that motivations affected leisure involvement, and leisure involvement predicted place attachment. This six-factor model for all volunteers revealed that the *values of nature* and *social* motives positively affected leisure involvement, while *enhancement* and *leisure* motives negatively influenced to leisure involvement dimensions. These results indicated that extrovert motives such as *values of nature* or *social* positively connected to leisure involvement, on the other hand, introvert motives such as *enhancement* or *leisure* motivation affected leisure involvement negatively. Moreover, the *attraction* dimension and *centrality* dimension affected place attachment. Especially, the *centrality* dimension had strong impact on both *place identity* and *place dependence*. While the *attraction* dimension was an on-site experience that occurred instantly, the experience of *centrality* dimension could happen anytime within their daily life.

Therefore, volunteering may enhance the participants in positive ways when sharing their experiences in the course of their normal activities.

However, the six-factor model contained statistical weaknesses on the *social* and *leisure* factors in terms of reliability and validity. Therefore, a four-factor model without the *social* and *leisure* factor was investigated. The four-factor model showed also acceptable fits level. This model revealed the structural differences between episodic and ongoing volunteers more clearly. For example, *values of nature* of ongoing volunteers had more positive impact to leisure involvement dimensions, on the other hand, *enhancement* was the strongest factor for episodic volunteers to predicted leisure involvement. Further, attraction for ongoing predicted place attachment the most, hence *centrality* was the strongest for episodic volunteers. These results suggested that ongoing volunteers place importance of on-site experience toward place attachment; hence episodic volunteers are more influential in their daily life experience related to volunteering. Thus, the processes of volunteer experiences were considerably different between episodic and ongoing volunteers. These findings are to achieve the study purpose; to comprehend the totality of their experiences of environmental volunteering projects from multidisciplinary perspectives.

Chapter Six: Conclusion

6.1 Introduction

This study has presented findings that demonstrate specific attitudes of environmental volunteers towards their participation in eco-leisure/tourism experiences on various islands in New Zealand's Hauraki Gulf in the region of Auckland. The participants can be divided either into episodic/ongoing volunteers, or into domestic/international volunteers. Each category of volunteers has specific characteristics, and this affects the individual's experience and their motivation to participate, attachment to the locality and overall leisure experience. The findings from an in-depth investigation of the Volunteer Process Model shed light on the causes and effects of environmental volunteers' total experiences. The results of this research give deeper insights into environmental volunteers and their experiences, which will enable practitioners to have more effective recruitment and manage better volunteer experiences, resulting in more frequent participation and greater retention of volunteers in volunteer programmes for the participating organisations. This chapter presents the conclusions of this study focussing on the objectives, and gives recommendations to volunteer organisers as well as implications for future studies.

6.2 Summary of the key findings

This study revealed that environmental volunteers in the Hauraki Gulf New Zealand can be classified into three categories based on their socio-demographic differences; leisure volunteers, ongoing volunteers, and international volunteers. The leisure volunteers tend to be relatively young, female, students, inexperienced, and mostly episodic volunteers. The ongoing volunteers are more likely to be older, both male and female, highly educated, affluent, experienced, and frequent participants. International volunteers are mostly young female students. These categories displayed distinctive differences in motivations, leisure involvement, and place attachment.

This study identified that environmental volunteers had six motivational factors including *values of nature, career, protective, enhancement, social, and leisure*. In this study, motivation factors included both volunteerism and leisure/tourism elements, as the islands of this study were remote eco-leisure/tourism destinations where volunteers need to travel from their home environment. In fact, even ongoing regular

volunteers also had leisure experiences such as enjoying a day out or relaxation that occurred on the remote island. The results of this study can be applied to volunteering at any other eco-leisure/tourism islands not only in the Hauraki Gulf but also in the world.

The results of this study also identified that episodic volunteers and ongoing volunteers had clearly different motivations from both leisure/tourism and volunteerism perspectives, which differed from previous research. In previous studies, altruistic motives and egoistic motives were regarded as contradicting elements to each other. However, in this study both motivations strongly coexisted in ongoing volunteers. Ongoing volunteers, who showed higher altruistic motivations, simultaneously enjoyed the leisure contexts in the remote island more than episodic volunteers. Episodic volunteers had lower volunteerism motivations and even leisure motivations than ongoing volunteers. However, the *protective* and *enhancement* motivations were relatively important for episodic volunteers. In this sense, it can be concluded that episodic volunteers put a relatively higher importance on self-centred motivations.

Interestingly, domestic volunteers and international volunteers had similar levels on the *values of nature* motivation and *leisure* motivation. This suggests that both domestic and international volunteers took the island as a leisure/tourism destination as well as a volunteering site in the same way. In other words, environmental volunteering on the island was regarded not only as a volunteer activity but also as leisure activity for both domestic and international participants. Therefore, the findings indicate that the distance from their home did not affect altruistic and leisure motivations. However, international volunteers put more emphases on the *career*, *enhancement*, and *protective* motivations than domestic volunteers did. That is, international volunteers were more benefit-driven, pragmatic, or 'pull factor' motivated compared with domestic volunteers. Domestic volunteers, on the other hand, were more influenced by important others such as close friends or parents. This was also supported by the result that most volunteers in this research participated with other people rather than alone. Therefore, it can be said that domestic volunteers are more influenced by social networks or norms, while international volunteers are more pragmatic and self-motivated.

In this study, leisure involvement was used to address environmental volunteer experiences rather than satisfaction of total experience that was often used in the VPM. This is partly because the passive involvement is the core experience of tourism activities nowadays. As leisure involvement contains three dimensions of experience, it is suitable to measure a wider range of experiences of activity involvement. In this study also, three dimensions of leisure involvement; *attraction*, *centrality*, and *self-expression* were extracted by the confirmatory factor analysis. These results showed that environmental volunteering on the island was not just a volunteering activity but also a leisure activity containing three dimensions of leisure experiences. The *attraction* dimension measures enjoyment while volunteering, whereas the *centrality* dimension measures involvement before or after the volunteering. The *self-expression* dimension contains both on-site and off-site involvement. The results of this study demonstrated that the on-site experience of involvement was the most important for environmental volunteers.

All dimensions of leisure involvement were clearly distinguished between episodic and ongoing volunteers. The study showed that ongoing volunteers felt that environmental volunteering contained leisure experiences, while episodic volunteer did not feel the same. That is, while episodic volunteers perceived environmental volunteering to be a 'volunteer' activities, ongoing volunteers perceived environmental activities in a way that reflected 'leisure' activities, and not solely 'volunteer' activities.

For international volunteers, the *self-expression* dimension of leisure involvement was extremely important. International volunteers used the experience of volunteering as a tool to represent themselves to others. For example, they may think that they were doing unique things in specific place away from their home, or they may seek opportunities to express themselves as international volunteers in front of other volunteers. This stimulates their on-site experience of *self-expression*.

While the length of volunteer participation was often used as to measure the consequence of volunteer experiences in previous research, this study focused on place attachment as the consequence of volunteering. This was because place attachment is often used in volunteerism and tourism literature as one of the indicators of social benefits, and the main volunteer activities were tree planting which directly contributed to the land. Volunteers confirmed that *place identity* and *place*

dependence were consequence of volunteering. The result of this study therefore suggested that place attachment scales can be utilised in environmental volunteer context. In this study, volunteers felt more symbolic and affective attachment rather than functional and cognitive attachment. In other words, participants felt attached to a place where they made a difference.

Significant differences between episodic and domestic volunteers were found on place attachment dimensions. Ongoing volunteers showed higher *place identity* and *place dependence*. As ongoing volunteers put more effort on the island and know the facilities of the island, it was understandable for them to have higher place attachment. This shows that people can increase their sense of place attachment with direct contribution and familiarity to the land. This result was also important for political and social practitioners, especially in Auckland in New Zealand where a number of tourists and immigrants come. In contrast to episodic and ongoing volunteers, no difference was found in place attachment between domestic and international volunteers. The distance from home did not affect place attachment.

One of the highlights of this study was the Volunteer Process Model applied in eco-leisure/tourism settings. As a whole, environmental volunteer experiences on the islands were supported by the VPM, in which motivations predicted experiences of leisure involvement that accounted for the extent of place attachment to the island after volunteering. In this study, two models were proposed, one is the six-factor model including the *social* and *leisure* factors; and the other was the four-factor model excluding those two factors. While these two factors were successfully extracted as factors by the EFA and CFA, there were weaknesses found in the structural equation model in terms of validity and reliability. However, both models showed a consistent effect on leisure involvement, in which extrovert motivations positively affected leisure involvement while introvert motivations negatively affected leisure involvement. In the six-factor model of the VPM, extrovert motivations such as *values of nature* and *social* factors were positive predictors of leisure involvement. Those who have altruistic purposes or social influences and networks tend to involve themselves more in environmental volunteering. On the other hand, introvert motivations such as *enhancement* or *leisure* negatively affect involvement in environmental volunteering. In this sense, altruistic motives and hedonistic motives were counteractive in terms of

their effect on experiences, as confirmed in previous literature. In addition, the *centrality* dimension of leisure involvement strongly affected both *place identity* and *place dependence*. The *centrality* dimension is produced through social networks such as talking to others or thinking about volunteering in daily life. Considering that *centrality* was influenced by *social* motives, the sense of place attachment increased through social activities, for example talking about volunteering in their daily life.

In the four-factor model, the *values of nature* motivation was the strongest and positive predictor of leisure involvement, whereas, *enhancement* was the weakest predictor of leisure involvement. This also supported the conclusion that the extrovert motives such as *values of nature* had more positive effect on involvement in the environmental activity than introvert motives such as *enhancement*. Thus, it can be concluded that extrovert motives of environmental volunteers positively predict leisure involvement in environmental volunteering on the island, however, introvert motives negatively influence leisure involvement.

When considering the relationships between experiences and consequences, in both four-factor and six-factor models, *attraction* and *centrality* of leisure involvement played important roles toward place attachment. Specifically, *centrality* had positive impacts on both *place identity* and *place dependence*. Considering that the centrality dimension represents off-site involvement, it can be said that reminding environmental volunteering in their real life enhanced the sense of connection to the place. This was a distinctive tendency of episodic volunteers.

As a whole experience, there was a strong path from *values of nature* through *attraction* to *place identity* in the four-factor model. The four-factor model indicated that the *values of nature* motivation played an important role for the *attraction* dimension of leisure involvement which in turn had a positive effect on *place identity*. In other words, those participants with altruistic motives tended to enjoy volunteering and this stimulated their feelings of importance on place identity. Given that volunteers naturally have altruistic motives, pleasant environmental activities enhance their *place identity* to the land. In addition, as the *attraction* experiences occur on-site where participant are volunteering, it can be managed by the volunteer programme to enhance enjoyment or pleasure. As a consequence, participants will increase their affection to the island.

This study was the first study assessing the difference of total experiences between episodic and ongoing volunteers. The results from the six-factor model and the four-factor model showed that episodic and ongoing volunteers had clearly different experiences produced through motivations, leisure involvement, and place attachment. Leisure involvement of episodic volunteers was driven by introvert motivations such as *leisure or enhancement*, while leisure involvement of ongoing volunteers was driven by extravert motivations such as *values of nature or social*. These results give further support that extrovert motivations have a greater impact on ongoing volunteers, while introvert motivations are more influential on episodic volunteers.

Episodic and ongoing volunteers also showed different tendencies with regard to the relationship of volunteer experiences with consequences. With ongoing volunteers all dimensions of leisure involvement had positive effects on place attachment. In contrast, with episodic volunteers, the *self-expression* dimension of experience had a negative impact on both dimensions of place attachment. This may be the result of episodic volunteers identifying that environmental volunteering did not represent them and feeling they could not perform well as a volunteer. Therefore, episodic volunteers are more vulnerable and need to be cared for especially in on-site experiences.

In summary, ongoing volunteers who have higher altruistic or social motivations will have higher place attachment. Episodic volunteers who have higher hedonistic or self-enhancement motivations tend to have more place attachment. However, their sense of self-expression should be managed properly to achieve higher place attachment.

Thus, environmental volunteers in eco-leisure/tourism destinations can be classified into three types with different motivations, experiences, and consequences of volunteering. This study identified that environmental volunteers have specific processes of volunteering experiences which including motivations, leisure involvement, and place attachment. These experience processes also differ between the types of volunteers.

These findings are considered to be important when considering the management of environmental volunteers. They can be taken into account when considering ways to

improve total volunteer experiences, increased participant retention for volunteer organisations, the attraction of new tourists and the retention of existing volunteers.

6.3 Recommendations to related stakeholders of environmental volunteering

This section outlines six recommendations for environmental volunteering stakeholders, based on the overall findings of this study. The recommendations are intended for other volunteering programmes based on remote islands.

1. Reconsider basic concepts of volunteering on the island

In environmental volunteering on the island, ongoing volunteers have higher motivations of both volunteerism and leisure than episodic volunteers. Participants in environmental volunteering expect that they can have a certain degree of leisure experiences. Therefore, volunteer organisers should consider ensuring the programme has flexibility to have leisure activities included for ongoing volunteers. For example, ongoing volunteers can take episodic volunteers on a guided walk before or after volunteering, which will give episodic volunteers more leisure experiences, as well as stimulate altruistic motivations of ongoing volunteers.

2. Understand the motivational differences of participants for precise marketing

Motivations differ in domestic and international volunteers. Tourism operators or volunteer organisers should understand the differences to gain volunteers continuously. International volunteers are more pragmatic focussing on their career- and self-development. Therefore, participants' success stories related to volunteering may help to increase interests from international volunteers. For episodic volunteers, as they expect leisure experiences as well, photos of nature or participants' socialising on the website may stimulate their interest, which will also increase their involvement in volunteering.

3. Understand the differences between episodic and ongoing volunteers

The process of volunteer experiences is significantly different between episodic and ongoing volunteers. For episodic volunteers, self-enhancement or leisure motives play an important role in their involvement in volunteering. Also it is an important element to increase place attachment for episodic volunteers that they are doing well while volunteering. In addition, ongoing volunteers increase their involvement with higher altruistic motives. Initiatives can be used to capitalise on these distinct processes. For

example, ongoing volunteers could be asked to help episodic volunteers by giving them feedback on their volunteering, or educating them about specific wild life on the islands in order to stimulate their learning motivations. Giving a new role or responsibility to ongoing volunteers will encourage them to have a greater involvement in volunteering and end up with higher place attachment to the island.

4. Managing experience of attractiveness of volunteering at the site

As the attraction dimension of leisure involvement plays an important role in the VPM, it is crucial for volunteer organisers to manage the experience. In addition, as the experience of attraction is on-site experience, it is possible to increase attractiveness of volunteering. For example, questions about flora and fauna on the island or plants they are planting may interest children and parents, which increases the attraction of environmental volunteering. These activities will also increase contact between episodic volunteers and ongoing volunteers, which helps fulfil social motivation factors.

5. Understand and utilise international volunteer tourists

International volunteer tourists have unique motivations and experiences while volunteering. They would like to participate in volunteering for their career, self-esteem or enhancement, and protection from negative feelings. As they may be interested in how the environmental volunteering affects their career, communications with those volunteers who are in related professions will stimulate their career motivations. In addition, recognition for their achievements may increase their self-esteem or sense of achievement. Also, as they put importance on self-expression, introducing them to other participants would be an opportunity to increase their sense of self, which encourage communication with other domestic volunteers to fulfil their needs for cultural interaction. International tourism operators and local volunteer organisations should understand preferences of international volunteers and give them opportunities to interact with domestic volunteers.

6. Clarify the role of volunteers and achievements

As episodic volunteers tend to focus on self-improvement or self-esteem, competence is important for them. In addition, episodic volunteers who could not represent themselves well due to the poor outcomes of volunteering caused lower place

attachment. Therefore, episodic volunteers need clear roles, goals, as well as their achievements which help them to feel more competence and see outcomes of volunteering. To do so, ongoing volunteers could supervise episodic volunteers especially at the beginning and ending of volunteering. For example, ongoing volunteers could teach new volunteers how to plant or the names of the plants more individually. Also, to show their achievement, putting a small sign of the date of volunteering, "September, 2015", for example, at the end of the day may be the easiest and feasible way to show their achievements.

6.4 Limitations

This study has a number of limitations to interpret and have implications on the results of the research. Firstly, the new model proposed in this study presented weaknesses on the reliability and validity of motivational factors, specifically on the *social* and *leisure* factor of the six-factor model. This indicated that the motivational items used in this study were not consistent in reliability and validity. Therefore, the interpretations and implications of the six-factor model were partly limited. Instead, alternative four-factor model that excludes the *social* and *leisure* factors was presented and analysed. As this study focused on the four-factor model, the precise interpretation of the volunteer experience process may be limited due to the lack of the inclusion of two factors. The six-factor model provided for environmental volunteering at eco-tourism destinations, and specifically social and leisure factors. Eliminating these two factors and creating a four-factor model resulted in a model more suitable for a more general volunteer context.

Secondly, the sample of this study contained both local volunteers and international volunteers, however, the participants of international volunteers were considerably less than that of local participants. This may affect the generality of the results of comparisons between domestic and international volunteers. In addition, due to the shortage of the participants of international volunteers, the SEM could not be used to identify the process model of international volunteers. This sampling bias restricted the results or analyses of this study.

Lastly, this study was conducted at four different Hauraki Gulf locations. The experiences of environmental volunteering on these islands are largely affected by the

policy in terms of activities or facilities on the island. These facets can be specific in the location, which may affect the results of the study. The differing environmental development schemes, managed through the Department of Conservation, may differ from locations outside of the Hauraki Gulf. This is a local case study that includes findings that may not be applicable to research studies involving more far-reaching locations.

6.5 Future research agenda

As mentioned in the limitation of this study, the results of this study showed a weakness of the survey instrument specifically on leisure and social motivation items. This may be because social motivation of volunteerism and leisure/tourism are slightly different concepts in the literature. The VFI survey instrument design was not fully reliable and valid for use in leisure and tourism settings. Therefore, these survey instruments should be developed to specifically measure environmental volunteers' motivations in eco-leisure/tourism settings.

While this study shed light on the quantitative approach for international volunteers by comparing with domestic volunteers, the sample size of international volunteers was not sufficient large. Further research focusing on international volunteers should be considered, as quantitative approach for international volunteer tourist is still in shortage. For example, investigating the volunteer process model for international volunteer tourists may show a different process of experiences from domestic volunteers. The results of further study will provide deeper insights for international tourism operators and tourism marketers.

As shown in the discussion of methodological limitations, the VPM includes the time sequence in the model. However, in this study the whole processes were measured at one point of the continued experience. Therefore, to address this limitation, a longitudinal study should be conducted. This study will reveal the details of the process from episodic to ongoing volunteers, which enable volunteer organisers to manage effective and efficient volunteer programmes.

This study was conducted on a limited island in the Hauraki Gulf. However, many islands host similar conservation programmes in New Zealand and the world. It is meaningful to identify motivational and experience differences between islands

including in New Zealand and the world. This will help to generalise the environmental volunteer motivations and experiences on leisure/tourism destination in the world.

6.6 Final thoughts

Environmental volunteering is becoming more important not only in social and environmental contexts but also in the tourism industry. This study indicated that environmental volunteering needs to be investigated from multidisciplinary perspectives. While volunteerism, leisure, and tourism are not new phenomena, conjunctions of these elements are relatively new concepts as well as a growing concern. To follow the growing trend, stakeholders including academia should cooperate for the development of the industries from different perspectives, which will enable practitioners to understand this complicated phenomenon and manage volunteers wisely.

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Appendix A



A survey of environmental volunteer tourism:

Motivation and meaning of the volunteer experience in New Zealand.

Researcher: Nobuyuki Fukushima (Masters of International Tourism Management,
School of Hospitality and Tourism)

This survey is designed to identify the relationships between motivation, involvement and place attachment of those who have experienced environmental volunteer activities at ecotourism destinations in New Zealand.

<input type="checkbox"/>	This is an anonymous survey – by completing the following questions you have given your consent to use this information as research data. (Please tick here before continuing.)
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Q1. Please indicate how important or accurate **the possible reason for volunteering** is.

	Strongly disagree	Tend to disagree	Neither agree or disagree	Tend to agree	Strongly agree	Not applicable
1. My volunteer experience will help me improve skills at work.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. People I'm close to volunteer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I can make new contacts that might benefit my business or career.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. My friends and family enjoy volunteering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. I can deepen my understanding of eco-systems that supports plants and animals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Volunteering is for me a form of having fun.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Volunteering will help me succeed in my chosen profession.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I can explore my own strengths and weaknesses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Volunteering will look good on my resume.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. My friends place a high value on environmental volunteering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I can learn more about the cause for which I am interested.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Volunteering gives me an opportunity to work with my friends or family members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Volunteering lets me learn through direct hands-on experience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Volunteering helps me keep fit.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly disagree	Tend to disagree	Neither agree or disagree	Tend to agree	Strongly agree	Not applicable
15. Volunteering allows me to explore different career options.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. Volunteering is an important activity for the people I know best.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. Volunteering makes me feel needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I am concerned about damage to the natural environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. People I know share an interest in environmental activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Volunteering gives me an opportunity to enjoy a day out.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I am genuinely concerned about the location I am volunteering in.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. Volunteering is a way to make new friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I have compassion for the health of the environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. Volunteering makes me feel better about myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I feel it is important to help to improve natural environments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Volunteering increases my self-esteem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. I can do something good for nature that is important to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Volunteering makes me feel important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. I feel volunteering relieves me of the guilt caused by humans destroying nature.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. By volunteering I feel less lonely.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Volunteering helps me work through my own personal problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Volunteering makes me feel relaxed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Volunteering is a good escape from my own troubles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Volunteering allows me to gain a new perspective on things.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. No matter how bad I've been feeling, volunteering helps me to forget about it.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please answer questions about your volunteer experiences.

Q2. Which island do you go to volunteer most? (Please choose one.)

- ☐ Waiheke Island
 ☐ Motutapu Island
 ☐ Motuihe Island
 ☐ Motuora Island
☐ Tiritiri Matangi Island
☐ Other ()

Q3. Please indicate the degree to which you agree or disagree with each statement regarding the place you answered in Q2.

	Strongly disagree	Tend to disagree	Neither agree or disagree	Tend to agree	Strongly agree
1. Volunteering on this island is very important to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. When volunteering on this island, I can really be myself.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Volunteering on this island is one of the most enjoyable things that I do.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I can tell others a lot about volunteering on this island.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Volunteering on this island pleases me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. When volunteering on this island, I can demonstrate my ability and personality.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Volunteering on this island interests me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I like to discuss volunteering on this island with my friends.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Volunteering on this island offers me relaxation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. A lot of my spare time is related to volunteering on this island.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. Most of my friends are in some way connected with volunteering.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. When I volunteer on this island, others see me the way I want them to see me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Volunteering on this island plays a central role in my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Strongly disagree	Tend to disagree	Neither agree or disagree	Tend to agree	Strongly agree
14. Visiting this island is meaningful to me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. Visiting this place is more important to me than visiting any other place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I identify strongly with visiting this island.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I get more satisfaction from visiting this place than visiting any other place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I am very attached to this island.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I would not substitute any other type of recreation for what I do here.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. I have a special connection to this island and other volunteers who visit here.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I enjoy visiting this place more than visiting any other place.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Q4. How long have you participated in environmental volunteering?

- ☐ This is my first time ☐ under a year ☐ 1 – 3 years
☐ 4 – 6 years ☐ 7 – 9 years ☐ Over 10 years

Q5. How often do you participate in environmental volunteering?

- ☐ Occasionally ☐ Annually ☐ Quarterly ☐ Monthly ☐ Weekly ☐ Other ()

Q6. How long was the duration of volunteering you participated in last time?

- ☐ Half a day ☐ Whole day ☐ 2 – 3 days ☐ Less than one week
☐ 2 – 3 weeks ☐ 1 - 3 months ☐ More than 4 months

Q7. What kind of volunteer work did you do last time? (Multiple choice can be applied.)

- ☐ Nursery ☐ Weeding ☐ Planting ☐ Pest control ☐ Nesting
☐ Track maintenance ☐ Monitoring ☐ Other ()

Q8. Who did you participate with last time? (Multiple choice can be applied.)

- ☐ By myself ☐ With family members ☐ With friends ☐ With colleagues ☐ Other ()

Please answer questions about yourself.

Q9. What is your gender?

- ☐ Female ☐ Male

Q10. How old are you?

- ☐ 18 - 24 years old ☐ 25 - 34 years old ☐ 35 - 49 years old
☐ 50 - 64 years old ☐ Over 65

Q11. What is your ethnicity?

- ☐ NZ European ☐ Maori ☐ Asian ☐ Pacific Islander ☐ Middle Eastern
☐ African ☐ European ☐ Other ()

Q12. Where do you live?

- ☐ Auckland ☐ Outside of Auckland but in New Zealand ☐ Overseas
☐ Other ()

Q13. What is the highest level of education you have completed?

- ☐ Intermediate school ☐ College or High school ☐ Diploma or Certificate
☐ Bachelors ☐ Postgraduate Diploma or Certificate ☐ Masters ☐ PhD or MD

Q14. What is your work situation?

- ☐ Part-time Employment ☐ Full-time Employment ☐ Self-employed ☐ Unemployed
☐ Student ☐ Homemaker ☐ Retired ☐ Other ()

Q15. How much is your annual household income in New Zealand dollars?

- ☐ 0 - \$20,000 ☐ 20,001 - \$35,000 ☐ \$35,001 - \$50,000
☐ \$50,001 - \$80,000 ☐ \$80,001 - \$100,000 ☐ \$100,001 - \$150,000

☐ \$150,001 - \$200,000 ☐ Over \$200,001

Thank you for your cooperation.

Appendix B

Participant Information Sheet



Date Information Sheet Produced:

23 April 2015

Project Title

Environmental volunteer tourism: Motivation and meaning of the volunteer experience in New Zealand.

An Invitation

My name is Nobuyuki Fukushima. This is an invitation to participate in a study I am conducting as part of my Master's degree in the Department of Hospitality and Tourism at Auckland University of Technology, under the supervision of Dr Alison Booth and Dr Charles Johnston. I am interested in gaining a deeper understanding of what motivates you to participate as a volunteer at ecotourism sites and what you expect to gain from the experience.

What is the purpose of this research?

The purpose of this research is to understand and identify volunteer tourists' motivations and experiences through their participation in ecological conservation projects, in the Auckland region, as a leisure time activity.

How was I identified and why am I being invited to participate in this research?

You are being invited to participate in this research because you have participated as a volunteer at an ecotourism site in the Auckland region. Your experience gained from participating in volunteer activities are important to the central aims of this research.

What will happen in this research?

You will be asked to complete an anonymous survey that should take 20 minutes to complete. This can be done in two ways; completed in person and submitted on site or by return post option, or completed online: <http://questionpro.com/t/CSQvzZPJya0> (Question Pro). The results will be analysed and used as primary research for the findings in my study.

What are the discomforts and risks?

No discomfort is expected. You have three different options for filling out the survey. Participation is voluntary.

How will my privacy be protected?

All survey material will be handled in a confidential manner. No names will be correlated to the survey findings.

What are the costs of participating in this research?

The survey will be expected to take approximately 20 minutes.

What opportunity do I have to consider this invitation?

If you are onsite, you will be offered the opportunity to complete the survey; either at the time or to fill out at your convenience and post back, you may also take advantage of the online option:

Question Pro; <http://questionpro.com/t/CSQvzZPJya0>

How do I agree to participate in this research?

By completing the survey.

Will I receive feedback on the results of this research?

The overall results will be available upon completion of the project on aut.researchgateway.ac.nz

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Dr Alison Booth, alison.booth@aut.ac.nz or (09) 921 9999 ext 6550, or

Dr Charles Johnston, charles.johnston@aut.ac.nz, (09) 921 9999 ext 5120.

Concerns regarding the conduct of the research should be notified to the Executive Secretary of ATEC,

Kate O'Connor, ethics@aut.ac.nz, (09) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Researcher Contact Details:

Nobuyuki Fukushima, gwq8560@aut.ac.nz

Project Supervisor Contact Details:

Dr Alison Booth, alison.booth@aut.ac.nz (09) 921 9999 ext 6550

Dr Charles Johnston, charles.johnston@aut.ac.nz (09) 921-9999 ex 5120

Approved by the Auckland University of Technology Ethics Committee on 23/04/2015, ATEC Reference number 15/106.