Assessing Visitors' Place Attachment and Associated Intended Behaviours Related to Tourism Attractions

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Submitted in fulfilment of the requirements for the degree of

Master of Business by Research (Hospitality and Tourism)

College of Business, Victoria University

May 2013

Abstract

Place attachment, referring to the affective links between people and places, is an important concept linking people, place, and certain place-related phenomena. Central to the role of place attachment in place-related research fields is its ability to explain perceptions and behaviours in people's interactions with places as a result of affection. Whilst it has been suggested that the concept of place attachment can assist in better understanding visitors' behaviours in tourism settings, research adopting the concept in tourism is still limited. Only a few studies have touched on place attachment in the context of tourism, among which the two principle topics covered are: (i) local residents' place attachment towards their tourism-based community and (ii) visitors' place attachment towards destinations. Research on the former topic is aligned in nature to studies assessing residents' place attachment to their residential places in environmental psychology, while the latter topic, which focuses on a unique type of place attachment, requires much more academic attention.

This thesis addresses the need for further investigation of visitors' place attachment in tourism settings. Limited studies to date have investigated visitor place attachment exclusively beyond destination level. Given tourism attractions, which serve as destination flagships have been ignored as the primary settings with which to study visitors' emotional attachments, tourism attractions were chosen to explore whether descriptions of place attachment at the destination level may also apply to visitors' place attachment perceived at the attraction level. The purpose of the current study was to understand the extent of visitors' place attachment towards tourism attractions and its associations with the nature of attraction, the characteristics of visitors and their trip patterns, as well as visitors' behavioural intentions and perceptions.

One man-made attraction and one natural attraction in Victoria, Australia, were selected as the study sites to conduct a quantitative survey using a convenience sampling method. On-site visitors were approached individually and invited to complete a questionnaire in

reference to their current experience at the attractions under study. In total 435 visitors participated to the study. A number of analytical techniques were performed on the data, including exploratory factor analysis, independent samples t-tests, and correlations. Interpretation of the results of these analyses enable the thesis draw the following conclusions:

(i) Participants felt a neutral level of place attachment to tourism attractions although they had only spent a relatively limited time visiting them. Place attachment perceived at the attraction level was found to be comparable to visitors' place attachment perceived at the destination level reported in previous studies. In addition to the similar intensity levels, the associations between place attachment and certain visitor behavioural intentions studied at the destination level were also found at the attraction level.

(ii) Contrary to the researcher's expectation based on the extant literature review, no prominent differences were found between the strength levels of place attachment visitors experienced at the natural versus the man-made attraction. At both attractions, visitors experienced neutral levels of place attachment and they were associated with a number of tourism behavioural intentions.

(iii) Higher place attachment levels were associated with more positive visitor behavioural intentions, including greater trip satisfaction, greater re-visit intentions, willingness to recommend visited attractions to others, willingness to spend more at the attractions in the future, active consideration of environmental issues, willingness to participate in on-site activities and events, and the greater likelihood of socialising with people at the attractions. Except for previous experiences such as childhood memories, none of the demographic variables or trip pattern characteristics investigated in the current study showed any significant association with visitor place attachment levels towards tourism attractions.

These findings emphasise the importance of paying equal attention to visitors' attachment towards man-made settings as well as natural settings at the attraction level. The interaction between visitors and tourism attractions provides operators with

opportunities to awake and maintain visitors' place attachment. By enhancing emotional bonds using strategies such as providing facilities for families with children, tourism attractions can entice more "good" visitors performing positive behaviours. The implications of the findings are further detailed in the concluding chapter of the thesis, together with an agenda for future place attachment research in the field of tourism.

Student Declaration

"I, *Li He*, declare that the Master by Research thesis entitled *Assessing Visitors' Place Attachment and Associated Intended Behaviour Related to Tourism Attractions* is no more than 60,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work".

Signature: ███████████

Date: 28 / 05 / 2013

Acknowledgements

My Masters by Research at Victoria University, Australia has been a journey of discovery, academic learning and professional growth. This experience is extremely important for me to grow as an individual researcher. I want to take this opportunity to thank the many people responsible for where I am today.

First and foremost, I would like to express my sincerest gratitude to my principal supervisor, Dr Leonie Lockstone-Binney, for her constant guidance, encouragement and assistance during the whole research. I have experienced many difficulties in the process, especially challenged by my own personality weaknesses and habits. Without her invaluable support and supervision, I will not be able to overcome them and have the thesis submitted today. I would also like to show my appreciation to my co-supervisor, Dr Sebastian Filep, for his advice and support throughout the research, with the charming and encouraging smile on the face. I would also like to send my special gratitude to Associate Professor Jim Sillitoe, who came into my journey when it experienced the most difficult part and provided me invaluable support and encouragement. I will miss our weekly morning meetings.

I would like to acknowledge Victoria University and China Scholarship Council for providing the financial support essential to pursue my Masters by Research at Victoria University. I also would like to thank the Office for Postgraduate Research for providing research training and assistance, in particular Helen Borland, who has helped and encouraged me in so many circumstances, and Tina Jeggo, who was always there giving prompt and important support. I would like to thank my colleagues in the university for their invaluable advice and help, especially Louise Klint, Min Jiang, Terry Delacy, Casten Sengpiehl, Alexandra Law, Serli Wijaya, Faith Ong and as well as my good friends in Melbourne who have accompanied me through this journey, Ming Song and Catherine Lou.

Above all, I would like to give special appreciation and thanks to my parents, my cousin and my aunty as well as my lecturers and friends back in China for their understanding, love and encouragement during my study. They are the reason why I can be so brave as to pursue a study alone in a foreign country which is in a different hemisphere, because I know the distance will never undermine their love for me and my love for them.

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Glossary

Place attachment: originated from environmental psychology, referring to the relationships between people and place; specifically defined in the present study as emotional links that people develop towards places. In the recreational and tourism contexts, place attachment represents a user's valuing of a recreation setting and the valuation consists of functional meanings and emotional-symbolic meanings, namely, *place dependence* and *place identity* (Schreyer, Jacob and White 1981).

Place dependence: people's functional attachment to a place.

Place identity: the symbolic meanings people assign to a place which reflects how a person views his or her self correspondence to the place.

Sense of place: commonly used in humanist geography; a concept describing the overarching relationships between people and place, emphasising on the cognitive dimension of people-place relationships.

Natural attraction: tourism attractions grounded on natural resources, including national parks, wildlife, scenery and outstanding natural phenomena and so on (Cooper et al. 2005).

Man-made attraction: built attractions, normally involving man-made features including cultural (e.g., religion, modern culture, museums, art galleries, architecture, and archaeological sites), traditions (e.g., folklore, animated culture, and festivals), and events (e.g., sports activities and cultural events) (Cooper et al. 2005).

Visitor: people who travel to tourism and leisure settings outside their usual environment of work and residence and whose main purpose of travel is for reasons other than the exercise of an activity remunerated in the place visited; including *day-trippers*, who visit and leave a tourist destination in the space of same day, and *tourists*, defined in a narrow scope of those who travel for more than 24 hours.

Chapter 1 Introduction

1.1 Place and place attachment

The current investigation is interested in combining the fields of study of place attachment and tourism to enrich understanding of people-place relationships induced by tourist experiences. As this is a place-related research topic, it is first important to discuss the concept of place as well as what place attachment is about.

The concept of place seems 'an unusual one, something that is difficult to define yet instantly understood' (Measham 2003, p. 2). In Measham's study, when interviewees were asked about "their places", they could understand the question instantly without asking for much explanation; yet, when coming to define the concept of place, researchers have interpreted it differently with different terms, such as space, environment and location (Kaltenborn & Williams 2002; Low & Altman 1992; Measham 2003; Relph 1976; Tuan 2001).

One of the most commonly cited definitions of place is given by Tuan (1977), who conceived place in relation to *space* and suggested that place refers to the meanings and values that people associate with geographical space. Thus, a house, a city and a river can all be places. Similarly, Low and Altman (1992) stated that place refers to space that has been connected with meaning through personal, group or cultural processes. In both definitions, the concept of space stands for biophysical components that exist regardless of human connections to them, whilst the concept of place is strongly connected with human activity. These definitions highlight that human involvement has played an active and essential role in transforming a *space* to a *place*, suggesting that the relationship between people and places is an important topic in place-related research.

Place attachment is a term devoted to understanding these people-place relationships, which is the key concept in this study. It has been conceptualised from diverse perspectives, thus Chapter Two provides a thorough attempt to understand its meanings and scope (Section 2.2). From the outset, the current study has understood place attachment as those affective bonds that form between people and places, parallel to the affective attachments people develop to a variety of things associated with their life courses, such as a birthday gift, a desk or a date in time as well as to relatives and

friends (Belk 1992). It represents a person's valuing of a place and the valuation consists of functional meanings and emotional-symbolic meanings, normally named as place dependence[1] and place identity (Schreyer, Jacob and White 1981). People interact with places and, during this process, develop different strength levels of attachment towards these places. Often they are not aware of the emotional bonds until the place attachment is threatened (Giuliani 2003), but these inconspicuous bonds are found to link to a variety of people's behaviours and perceptions associated with places.

In summary, people-place relationships and their associations with place settings and people's characteristics, behavioural intentions and perceptions are the primary focus of place attachment studies. They sparked the present study with an interest in understanding visitors' behaviours in the tourism context from a new perspective – the perspective of visitors' place attachment towards tourism settings, namely, visitor attractions.

1.2 Background to the study

1.2.1 The agenda of place attachment study: the need to go beyond residential settings

It has been almost 50 years since people-place relations were first afforded scientific attention. This was in a study of relocation forced by urban renewal, where people were noted to have suffered depressive emotional and behavioural reactions after dislocation from their familiar environment (Fried 1963). Since then, the importance of people-place relations has been recognised as a research field linking people, places, and certain place-related issues. In addition to forced relocation (Fried 1963), there have been studies of natural disasters (Brown, B & Perkins 1992), public spaces planning and usage (Inglis, Deery & Whitelaw 2008), well-being (Theodori 2001), tourism development (Su & Wall 2010), fear of neighbourhood crime (Brown, B, Perkins & Brown 2003), environmental condition perceptions (Kyle et al. 2004c), sense of safety in a war zone under terrorism (Billig 2006) and so on. Research on people-place relations has predominantly focused on residential settings, especially one's home,

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[1] Place dependence and place identity are discussed in detail in Section 2.2. Briefly, place dependence refers to a place's functional attractiveness and relates to the unwillingness of people to change to another site for their particular activities. Place identity represents the extent to which visiting a place is a central aspect of peoples' lives. They are the two most important dimensions when empirically defining place attachment in tourism and leisure studies.

neighbourhood and community. These residential settings constitute the traditional sources of people-place connection.

Interest in people-place relations is growing (Lewicka 2011). This trend can be seen as a reaction to globalisation, greater homogenisation of cultures, migration, increased mobility, encroaching environmental problems, rapid tourism development, the affluence of western societies and several other related societal changes and environmental issues (Scannell & Gifford 2010a). One concern, along with this burgeoning interest, is that the people-place bonding based on traditional sources seems fragile in light of these societal changes. For example, increased mobility means that some people may reside in a city but work for months in a different city or pay frequent business trips to other places. Similarly, because of the increasing affluence of western societies, people can afford to own more than one home, participate in various outdoor recreational activities and enjoy extensive travel. In these cases, people's emotional bonds with their permanent residential cities may be weakened by the frequent experience of leaving their home (Lewicka 2011).

One response to this concern is by Williams, Anderson, McDonald and Patterson (1995), who believed that societal changes do not reduce either the meanings with which people endow places or the strengths of bonds they develop towards places. Instead, the societal and environmental issues have led to changes in how these meanings or bonds are created or constituted. In other words, it is the ways in which people connect with places that have been influenced by these societal and environmental changes. Their view is in agreement with Sack (1992) who earlier suggested that 'meanings are increasingly created in a spatially de-contextualized world of mass consumption and mass communication; a world in which market forces create and destroy meaning at a rapid pace' (quoted in Williams et al. 1995, p. 1). People are left freer to interact with various places and to construct meanings about them. According to these authors, whereas traditional sources of people-place connection may decline, leisure, recreation and tourism settings can be increasingly important contexts for people-place connections and meaning-making to be created (Sack 1992; Williams et al. 1995).

Furthermore, some researchers (Manzo 2003) have more recently echoed the notion that without better 'incorporate[ing] the full magnitude of human experiences into the current discourse on people-place relationships' (p. 47), our understanding of people-

place relationships may be limited. Therefore, there is a need to go beyond residential settings to more deeply understand people-place bonding.

Increasingly, researchers have addressed this need. For instance, a number of studies have investigated the place attachment of certain visitor types, such as campers, hikers, fishing and white-water recreationists (Bricker & Kerstetter 2000; Kyle, Absher & Graefe 2003; Kyle et al. 2003; Wickham & Kerstetter 2000), and lifestyle tourists (Gross & Brown 2008) to non-residential places. These investigations constitute an increasingly important type of people-place relations, which, given the aforementioned background, are the emotional links between visitors and leisure, recreational and tourism settings. Additionally, there has been research illuminating people's bonding to other place settings, including sacred sites (Mazumdar & Mazumdar 1993), working places (Milligan 1998), public places such as informal meeting places (e.g., cafes and pubs) and public plazas (Low 1992), as well as natural settings and wilderness experiences (Williams et al. 1992).

1.2.2   The context of tourism

This thesis explores place attachment in tourism settings. Tourism refers to the temporary movement of people to destinations outside their usual environment of work and residence, the activities undertaken during their movement and their stay in those destinations, and the facilities created to cater for their needs (Leiper 1979). In line with this definition, tourists are accordingly defined as people who travel to tourism settings outside their usual environment of work and residence and whose main purpose of travel is for reasons other than the exercise of an activity remunerated in the place visited. In the current study, the term "visitor" is used to incorporate both tourists who normally travel for more than 24 hours and day trippers who visit and leave a tourist destination in the space of the same day [2]. This term is chosen because although in the tourism and leisure place attachment literature the terms "tourists" and "visitors" are used interchangeably, the latter term appears more frequently.

In a tourism setting, two types of people-place relations can occur: local residents' attachment to their residential places, and tourists' attachment towards the destination.

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[2] Day-trippers are also named excursionist or same-day visitors. There are debates regarding whether day-trippers belong to the tourist category. This study is in agreement with increasing international opinion that tourists should include day-trippers, given the importance of them as an distinct market segment in tourism (Chhabra 2006). However, in order to be consistent with the terminology used in the other recreational and tourism place attachment studies, the term "visitor" was chosen to avoid confusion.

Local residents are the owners of a destination and view the place as their home, whilst tourists come as external visitors. As a result, the relationships formed between the two groups are different. The uniqueness of people-place interactions in tourism in relation to tourists is partly reflected in the definition of tourism: first, given it is a temporary movement, tourists spend only a certain length of time interacting with the destination; second, a tourism destination is outside their normal environment, where the meanings people give the destination are beyond ''my place''; and third, tourists visit a tourism destination for various motives, which drive their experiences and behaviours, and are linked with the meanings given to the tourism settings. Compared with other people-place interactions, the tourist-destination interaction is more complicated as it is discretionary and the role that tourists play in its formation is more active (Zhou & Xu 2009). The diversity in tourism destinations, tourists' characteristics and their behaviours, and types of trips also contribute to complicating the tourist-destination relationship.

Although complicated, the understanding of tourist-destination interaction can assist in better understanding tourist behaviours. Tourist behaviour is key to the current tourism study agenda, such as re-visiting, recommendations, satisfaction, and so on. Pearce (2005) suggested that, when discussing tourist behaviour, it is important to recognise that this topic can be approached from multiple perspectives, but there is an absence of related theory. One most commonly used approach is interpreting tourist behaviour through viewing a tourist as a consumer and adopting concepts and theories from consumer behaviour studies (Bigné, Sánchez & Sánchez 2001). The central focus of this approach is on the tourist decision-making process and satisfaction with the tourist experience. For example, Cooper et al. (2005) discussed tourism consumer behaviour in terms of the decision-making process and factors influencing this process, including attitudes, perceptions, image, roles and family impact, motivations and other determinants.

However, this approach is not thorough enough for explaining tourists' other behaviours besides decision making and consumption. For example, how does a tourist interact with the natural environment at a natural attraction? Will the tourist actively protect the natural environment during his or her visit to the site? Pearce (2005) pointed out that the consumer behaviour approach does not consider the social role of the tourist in a destination; it thus ignores the possibility of tourists acting as an important driver to aid

cultural and societal development in a destination.

The concept of place attachment has the potential to assist further understanding of tourist behaviour, especially the tourist-destination perspective. It provides much more scope to take into account the social role of tourism (Pearce 2005), including social interactions of tourists, and their associated impacts on the destination, since it delves into the relationship between tourists and destinations. Examining tourists based on their degree of emotional bonds, can help researchers to understand them from a perspective in which subjective emotions are considered. Place attachment studies in tourism can also incorporate other tourist behaviours in addition to those normally considered using the consumer behaviour approach (Swarbrooke & Horner 2007).

1.2.3   Current tourism place attachment research

The significance of the concept of place attachment for tourism studies is being recognised. Place attachment research has attracted interest in the domain of tourism, either concerning local residents' attitudes towards tourism developments or concerning tourists' attitudes or behaviours prior to, during and after their trips (Amsden, Stedman & Kruger 2011; Gu & Ryan 2008; Hwang, Lee & Chen 2005; Lee 2001; Marles & Watkins 2003; Su & Wall 2010). In particular, it has been accepted that the concept of place attachment offers considerable potential for integrating the tourist, the destination and the visiting experience in tourism contexts. This makes the concept highly relevant to the emerging agenda of sustainable tourism research concerned with the relations in tourist destinations between both residents and tourists (Jamal & Robinson 2009).

Research into place attachment in tourism contexts remains limited. Some attention has been paid to residents' attachments to tourism-based communities and associated impacts on residents' attitudes towards tourism developments (Gu & Ryan 2008; Hou, Lin & Morais 2005; Su & Wall 2010). As these studies focus on residents' responses to tourism, not on the attitudes and behaviours of tourists themselves, they still deal with the relationships developed between people and their familiar and usual residential environment. Studies dealing with visitors' attachment are rarer (e.g., Gross & Brown 2006, 2008; Lee 2001; Yuksel, Yuksel & Bilim 2010; Tsai 2011)

As mentioned earlier the concept of place attachment can contribute to the understanding of visitors' behaviours from a new perspective which considers not only visitors' consumer behaviours but also their social roles in a tourism setting. This effort

should be directed at different levels of tourism settings (e.g., destinations, attractions) as visitors interact with them differently in terms of time spent and trip patterns, etc. Additionally, the planning and policies of different tourism setting levels involves different stakeholders, procedures and targets (Dredge and Jenkins 2007).

Yet, among the existing studies dealing with visitors' attachments, research efforts have been mainly, although not exclusively, concentrated on tourism destination regions (Gross & Brown 2006, 2008; Lee 2001; Yuksel, Yuksel & Bilim 2010) and destination countries (Tsai 2011). Tourism attractions, which are distinctive features of a destination which attract tourists, have been largely ignored as a specific level of tourism setting to assess visitors' place attachment. This is despite Hwang, Lee and Chen's (2005) study assessing visitors' attachment in Taiwan's national parks exclusively in the tourism context.

Tourism attractions provide the single most important reason for the majority of leisure visitors to travel to a tourism destination (Cooper et al. 2005). They would not be the first place a visitor interacts physically during their trip, but as what a destination offers for visitors "to see and do" tourism attractions play a crucial role in destination marketing and are highly related to visitors' expectations and motivations (Hall 2007). In other words, they are likely to be the first icons or impressions of a destination that visitors form in their minds when they research about the destination prior to travelling. However, given their importance in visitors' decision making processes, visitors normally spend comparatively little time at a tourism attraction, because tourism attractions offer a finite experience. Because time is viewed as a fundamental component in determining people's place attachment, how strongly visitors can be place attached to the tourism attraction becomes an interesting question.

Additionally, tourism attractions are numerous, diverse, and fragmented (Cooper et al. 2005). There are many different ways to classify tourism attractions, such as the most commonly adopted classification according to type: natural attraction versus man-made attraction. Yet there is limited literature in place attachment research to compare visitors' attachments perceived at different types of tourism settings. Whether the nature of attractions influence visitors' place attachment is also an unclear research topic.

Therefore, it is suggested that the current study, which focuses on visitors' place attachment to tourism settings, in particular to tourism attractions, will make a timely

and valuable contribution to the field of tourism studies. Place attachment studies in tourism have already tested associations between visitors' place attachment and a number of variables in destinations, such as activity involvement (Lewicka 2005) and pro-environmental behaviours (Vaske & Kobrin 2001). The current thesis will explore place attachment levels perceived at tourism attractions by examining whether these associations remain salient at the attraction level.

1.3 Focus of the study

1.3.1 Objective

The objective of the study is to enrich current understanding of people-place relationships in tourism settings using the concept of place attachment. This will extend the concept of place attachment further into the tourism context, enhancing its ability to facilitate interpretation of tourist behaviours and improved destination management at the attraction level.

1.3.2 Research problem and research questions

The problem underpinning this research is that, currently, only limited studies have been undertaken on visitors' attachment to tourism settings. Tourist attractions, as distinctive features of a destination attracting tourists, have not received much in the way of systematic research attention. The relationships between visitors and tourism attractions need to be further understood. Therefore, it is proposed that the current study investigates the nature and extent of place attachment between visitors in relation to tourism attractions.

The initial research question asked in the current study is: can visitors' place attachment at the attraction level explain their associated behaviours in tourism attractions? By asking this question, this thesis examines whether the findings of previous place attachment studies in leisure and tourism, highlighting that visitors can feel emotional attachments and the attachments can affect visitors' behaviours, at the destination level, are also applicable at the attraction level. Driven by the literature review, three related questions are raised to facilitate the design of the study and the development of the research instrument: (i) to what extent are visitors place attached to tourism attractions? (ii) Do place attachment levels vary for different types of attractions, different types of visitors, and different trip characteristics? (iii) What is the association between visitors'

place attachment levels and their behavioural intentions in tourism attraction settings?

Anticipated outcomes attempt to identify the average strength level of visitors' place attachment towards tourism attractions, important elements influencing place attachment levels or associated with high levels of attachment, and associations between visitors' place attachment and behavioural intentions in relation to tourism attractions. These insights allow tourism managers to better understand how visitors' behavioural intentions are associated with their emotional attachment to tourism attraction. Based on such understandings, managers can make relevant decisions to enhance repeat visitation as well as other positive behaviours from which attractions could benefit. Together, the anticipated outcomes will provide a contribution to understanding visitors' place attachment related to tourism attractions.

1.3.3 Scope and key assumptions

First, given the research problem, this study is conducted as descriptive research, which is exploratory in nature. For this kind of research, a cross-sectional design is a satisfactory way of obtaining descriptive information (de Vaus 2001). Thus the current study is cross-sectional rather than longitudinal or experimental. It is intended only to examine whether the place attachment associations postulated at destination level or in residential settings might exist at the tourist attraction level. Causal relations between place attachment and other variables, as well as the meanings of place attachment, are beyond the scope of the study.

Second, the current study focuses on positive attachment rather than negative people-place relations. This does not imply that negative feelings, such as dislike and aversion, do not exist in visitors' interactions with tourism settings. However, the positive focus follows the majority of existing studies with the purpose of understanding the degree of visitors' attachment to tourism attractions and the transformation of this positive affection into positive associated behaviours.

Thirdly, as the literature suggested that "places" vary in scale, tangibility and specificity and "place attachment" may change over time (Low & Altman 1992), it would be helpful to clarify the delimitation of "place" and "place attachment" for readers. In the current study, "place" mainly refers to the tourism attraction (as defined in the glossary). When "this place" is used to refer to the attraction, it represents both the physical environment and facilities of the attraction, and the social and cultural environment

created by its history and on-site staff; thus both the tangible and intangible elements of a tourism attraction are considered. Regarding place attachment, given the chosen research design for this thesis is cross-sectional, place attachment is captured at a point in time. It is beyond the scope of the current study to assess changes in place attachment over time.

Lastly, as the study uses the survey method, it is assumed that data collected from the questionnaire instrument is authentic and therefore a true representation of participant opinion.

1.4 Outline of the thesis

The thesis is divided into five major chapters. Chapter One has provided an introduction to the research context and the research problem. Chapter Two sets out the conceptual background for the study by highlighting what research has been done on place attachment across various place settings and what are the factors which could be related to visitors' attachment to tourism attractions. At the conclusion of Chapter Two, the gaps in knowledge that the current study seeks to address are discussed further. Starting with the refined research questions, Chapter Three provides a detailed description of the methodology used in the study, and Chapter Four presents the subsequent results and discussion. The final chapter is dedicated to the conclusions of the study by reviewing the research findings in light of the research questions initially proposed. Following this outline, the thesis now moves to introduce the scholarly literature that underpins the current study.

Chapter 2 Literature Review

2.1 Introduction

In the preceding chapter, the broad concept of place, the research background, the tourism context and the primary interests of the thesis were discussed. In order to further reveal the concept of place attachment and to identify the knowledge gaps which this thesis seeks to address, Chapter Two provides a detailed review of the literature pertaining to place attachment, which underpins the current study.

This chapter contains three major sections:

Section 2.2 provides descriptions of the conception of place attachment and overall place attachment research and presents important findings that shed light on this research area.

Section 2.3 provides a discussion of existing studies associated with place attachment in the context of tourism. In this section, the influence of place settings on place attachment is revealed, which drives the current study to examine visitors' place attachment at the narrow spatial level of attractions. It also drives the first related research question that is raised to facilitate the design of the study: *Q1 to what extent are visitors place attached to tourism attractions*?

Section 2.4 further details studies of visitors' place attachment and associated visitor, attraction and experience related factors derived from not only the tourism context but also leisure, recreation and other fields. These studies are discussed to provide a conceptual framework for assessing place attachment at the attraction level, which guides the second and third related research questions: *Q2 do place attachment levels vary for different types of attractions, different types of visitors, and different trip characteristics? Q3 what is the association between visitors' place attachment levels and their behavioural intentions in tourism attraction settings?*

The final section closes this chapter with a conclusion in which the knowledge gaps this thesis aims to address are highlighted.

2.2 Understanding place attachment

2.2.1 The concept of place attachment

In place-related research, the term place attachment has been conceptualised from diverse perspectives. This term first appeared when phenomenological researchers became aware of people's connection with their home and sacred places (Relph 1976). At that time, the term place attachment was used to describe the particular phenomena in which people interact and develop a variety of bonds with places (Low & Altman 1992). The concept of place attachment has subsequently been developed in many different study fields (e.g., environmental psychology and human geography). This development has not only resulted in a wide acceptance of the term but also led to different ways to understand place attachment in addition to viewing it as a place-related phenomenon.

The literature reveals two common perspectives to interpret the term place attachment: as the overarching people-place bonds (including cognitive, conative and affective bonds) and as the exclusive affective people-place bond. Both perspectives define place attachment as bonds between people and a variety of places. People develop such bonds towards not only the physical environment of a place, such as buildings, architecture and landscapes, but also the social ties established with surrounding places from interactions with family members, neighbours or cultures (Beckley et al. 2007; Giuliani 2003). The following sub-sections depict these two common perspectives to conceptualise place attachment, and in the process clarify the definition of the term for this thesis.

Place attachment as overarching people-place bonds

When place attachment is viewed as an overarching bond between people-place, it refers to various relationships that people develop to places through people-place interactions, which often incorporates several separate dimensions (Low & Altman 1992). For example, place attachment can be perceived as consisting of cognitive, conative and affective dimensions in Scannell and Gifford's (2010a) framework[3]. This dimensionality appears similar to that of the construct *sense of place* suggested by Jorgensen and Stedman (2001, 2006) derived from the theory of attitude. In Jorgensen

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[3] In Scannell and Gifford's (2010a) tripartite organising framework of place attachment, they addressed the question of how affect, cognition, and behaviour are manifested in the attachment under "Attachment".

and Stedman's studies, place attachment underlines only the affective aspect of the place bonding and is subsumed by sense of place. This perspective is adopted by the current study and will be detailed in the next sub-section.

Based on Scannell and Gifford's (2010a) framework, the cognitive dimension of place attachment involves the construction of, and bonding to, place meaning, as well as the cognitions that facilitate closeness to a place, such as memories, beliefs, meanings, and knowledge that individuals associate with a place. Through memory, people create place meaning and connect it to the self. One can grow attached to the settings where memorable activities or important events occurred (Hay 1998b; Hunter 1974; Manzo 2005; Rubinstein & Parmelee 1992; Scannell & Gifford 2010a; Twigger-Ross & Uzzell 1996). Hunter (1974) describes them as "symbolic communities," because the attachment is based on representations of the past that the setting contains. The cognitive dimension of a place not only refers to cognitions about the physical environment in terms of memories, thoughts, values, preferences, categorisations and so on, but also covers the process whereby human beings incorporate these cognitions into their self-definition system when these cognitions facilitate the construction and maintenance of one's own distinctiveness and similarity. For example, people moving to an island from the mainland become familiar with the island and realise the uniqueness of the island environment (e.g., the landscape) and its influence on their living patterns. They are then highly likely to think: 'We are island people' and transfer the notion to other settings.

The conative dimension of place attachment refers to people's behavioural intentions that signal their bonding with a place. According to this dimension, the bonds between people and place are expressed through behavioural intentions, such as proximity-maintaining behavioural intentions (Hidalgo & Hernández 2001) and intentions to restore devastated places (Francaviglia 1978). The proximity-maintaining behavioural intention is supported in studies that relate people-place bonds to residents and those individuals who have been absent from their homes and show efforts to return (Giuliani 2003; Kasarda & Janowitz 1974). Furthermore, the willingness to maintain closeness to a place can be also expressed by religious pilgrimage (Mazumdar & Mazumdar 1993, 2004). Nevertheless, there are exceptions. When people feel attached to places other than their residential home, taking one's birth place as an example, they do not always express a desire to return and reside permanently in that place. Instead, they may prefer

to occasionally visit it rather than moving back to live there (Giuliani 2003). The intention to restore devastated places occurs at the collective, community or cultural level. In post-disaster cities, local people show a high desire to restore the devastated places to their familiar state. For example, Francaviglia (1978) documented the rebuilding of Xenia, Ohio, a town that was devastated by a tornado in 1974. In this case, local residents and businesses refused a proposed construction plan that would solve problems existing as a result of previous town planning (e.g., increased suburbanisation), and ultimately had the new town look much like the one before the disaster. Similar actions have occurred in other cities, such as Friuli, Italy (Geipel 1982) and Anchorage, Alaska (Haas, Kates & Bowden 1977). Scannell and Gifford (2010a) summarised such restoration behavioural intentions as 'familiarity and use took precedence over planners' wishes; residents manifested their attachments by recreating the city to which they were bonded, even if it was flawed' (p. 4). Some researchers view the conative dimension as the consequent behavioural intentions of cognitive and affective dimensions of place attachment (Giuliani 2003).

The affective dimension of people-place bonds represents affectionate links between people and places 'that goes beyond cognition, preference, or judgement' (Riley 1992, p. 13). According to Scannell and Gifford (2010a), the term 'displacement' can effectively assist in understanding this dimension. The literature on displacement presents important evidence of the emotional connection between people and place. Displacement occurs when people have to leave their places in the event of war, natural disaster, epidemics, relocation, immigration or some other disruptive event, or when a place is re-structured and thus people lose familiarity and identity. Fullilove (1996) posited that when people-place connection is threatened by displacement, feelings of sadness and longing as well as nostalgia, disorientation and alienation ensue. Likewise, Fried (1963) found displacement resulted in "grief" among residents whose neighbourhood experienced a reconstruction under an "improvement" plan, in which they lost familiar structures and social settings, and some of them were forced to move. Fried thus concluded that human-place connection is based on emotions.

The central role of emotional connections in people-place bonds has been asserted by many researchers (Cuba & Hummon 1993; Fullilove 1996; Giuliani 2003; Hidalgo & Hernández 2001; Manzo 2003, 2005; Mesch & Manor 1998; Relph 1976; Riley 1992; Tuan 1974). Whether being described as belonging, love, feelings of pride, or a sense of

well-being, the emotional bond is undoubtedly of interest in the scholarship of place-related research. Therefore, the term place attachment is most often used to specifically define this emotional bond in people-place relationships, which constitutes the narrowest definition of the term.

Place attachment as exclusive affective people-place bonds

This study chose to understand place attachment exclusively as the affective bonds that people develop towards places. This definition is used frequently in existing place attachment research[4], especially in leisure, recreation and tourism contexts (Farnum, Hall & Kruger 2005).

Affective attachment is very common for humans. People develop various attachments to the world and to a variety of things associated with their life courses. For example, people affectively attach themselves to a birthday gift, a chair or a date in time as well as to parents, relatives and friends in human society (Belk 1992). Particularly, people's affective attachment to other people is called interpersonal attachment. Marris (1982) has pointed out that the affective attachment which matters most to human beings is to 'particular people whom we love…and sometimes to particular places that we invest with the same loving qualities' (p. 185). Fried (2000) later echoed that people have the same strong affective response to the death of a loved one and the loss of a beloved place. This also reflects an important feature of this emotional attachment which is that place attachment is not obvious unless the attachment is threatened.

Giuliani (2003) thus suggests understanding place attachment through the medium of interpersonal attachment studies. Take the importance of affective attachment for example. According to Bowlby's interpersonal attachment theory[5], affective attachment is the most basic and the most meaningful component of human nature and is used by human beings to describe close relationships in terms of feelings and emotions such as love, hate, fear, anger, contempt, and gratitude (Fullilove 1996). When comparing place attachment and interpersonal attachment, Giuliani (2003) has observed both similarities

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[4] A growing number of researchers now have reached agreement that the concept of place attachment is more emotion-based and the concept of sense of place focuses on cognition (Farnum et al. 2005). This contention is further elaborated in Section 2.2.1.

[5] Interpersonal attachment theory was originally proposed and illustrated by Bowlby in his series of works published in 1969, 1973, 1979, 1980 and 1988. Giuliani's review of interpersonal attachment theory was heavily based on Bowlby's interpretation. This theory has been further developed by Bretherton and Munholland in 1999, Rholes and Simpson in 2004, Gillath et al. and Marvin and Britner in 2008 (cited in Giuliani 2003; Tsai 2011).

and differences[6] and concluded that the former parallels, but is distinct from, the latter.

Affective place attachment should represent any array of emotions that people form towards places, including both positive (e.g., love) and negative affections (e.g., hatred) (Manzo 2005). Positive place attachment generally makes people recall satisfying or happy experiences in a place, and thus makes people want to maintain or be close to the place where the experience happened. In contrast, negative affective place attachment may be created when people have unhappy experiences in a place. Nevertheless, in place attachment research the focus is predominantly on positive affective place attachment in tandem with positive behaviours or perceptions (Giuliani 2003). This study follows this stream of place attachment research and places its focus on positive place attachment in the context of tourism.

2.2.2 Overview of place attachment research

Place attachment studies have involved many research fields. The purpose of reviewing place attachment studies in different fields is to find the mutual features of place attachment research and to understand how place attachment studies in the tourism context fit into the place attachment study area. Through reviewing the significance of place attachment research, the challenges in this study area are also acknowledged.

According to Lewicka's recent review article (2011), the history of place attachment research can be traced back for at least 40 years. Early contributors to the development of this research area include Tuan (1974), Relph (1976), Riger and Lavrakas (1981), and Stokols and Shumaker (1981). The research field of place attachment has made steady progress, although it seems that more questions have been raised rather than answered. Since its introduction, the concept has been extended into different research fields, including all branches of social science and a few branches of the natural sciences.

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[6] Similarities include: (i) the relationship performs important psychological functions in enhancing wellbeing, (ii) the importance of the functions vary at different stages of one's life, (iii) the persistence of the bonds over time, (iv) the awareness of the attachment under particular circumstances, such as when the bond is threatened, and (v) the reactions of sorrow in the case of loss. These are typical aspects in affective relationships. On the other hand, differences were observed as outweighing the similarities. These differences include: (i) different approaches, such as the evolutionary framework adopted in interpersonal attachment theory compared with the socio-cultural perspective dominant in the latter, (ii) different ways to consider the developmental aspects of attachment, in which interpersonal attachment theory focuses on infancy and early childhood whereas attachment to place lacks specific hypotheses concerning the formation of attachment patterns, (iii) different understanding of attachment, in which interpersonal attachment is restrictedly explained in Bowlby's theory while place attachment is still broadly acknowledged. The differences mainly derive from the research methods and emphasis, indicating that the uniqueness of place attachment in nature is yet to be fully explored (Giuliani 2003).

Environmental psychology and human geography undoubtedly attract the most scholarly attention on place attachment in comparison with the other research areas (Bogaç 2009; Bonaiuto et al. 1999; Brown, B, Perkins & Brown 2003; Chow & Healey 2008; Devine-Wright & Howes 2010; Droseltis & Vignoles 2010; Fried 2000; Harris, Brown & Werner 1996; Hay 1998a, 1998b; Hernández et al. 2007; Hidalgo & Hernández 2001; Knez 2005; Korpela et al. 2009; Kyle et al. 2004 a; Kyle, Mowen & Tarrant 2004; Lewicka 2005, 2008, 2010, 2011; Mannarini et al. 2006; Manzo 2003, 2005; Mazumdar & Mazumdar 1993, 2004; Mishra, Mazumdar & Suar 2010; Morgan 2010; Nielsen-Pincus et al. 2010; Patterson & Williams 2005; Proshansky, Fabian & Kaminoff 1983; Raymond, Brown & Weber 2010; Rollero & De Piccoli 2010; Scannell & Gifford 2010a, 2010b; Twigger-Ross & Uzzell 1996). The emphases of these studies relate to the meanings with which people endow places in general (Tuan 1974), or in residential settings (e.g., home), and the relationships between people and these places (Hernández et al. 2007), in particular, the associations between people and their residential settings.

The other fields, such as sociology, anthropology, architecture, consumer studies, landscape architecture, urban planning, psychology and medicine have also contributed to the increasing growth in journal publications on place attachment. All look at residents' place attachment towards residential places in slightly different ways. For example, landscape architecture and urban planning often focus on understanding the change of people's affective bonds towards urban areas and using residents' attachment to facilitate the planning of a place, such as the design of metropolitan parks (Inglis et al. 2008). Sociology, anthropology and community psychology predominantly deal with social ties in residential settings and their consequent influences (Riger & Lavrakas 1981), while studies in wilderness and natural resource management emphasise people's place attachment developed to nature and wilderness settings.

Other fields, which emphasise visitors' place attachment towards places beyond residing and living, include consumer studies, marketing and management, leisure, recreation and tourism studies (Yuksel, Yuksel & Bilim 2010). They have enriched our understanding of people's attachment towards leisure, tourism and recreational settings. These studies deal with visitors' attachment induced by entertaining in recreational settings or visiting various tourism settings (Gross & Brown 2006) and their associations with various tourist behaviours or consequent destination management

(Tsai 2011). Since research in this thesis examines visitors' attachment towards tourism settings, research in these fields is most relevant to the current study and this body of work is reviewed and critiqued in more detail in Section 2.4 and Section 2.5. Through reviewing place attachment studies in different fields, many lessons of place attachment research have been learnt and they are detailed in the following subsections.

Foci and challenges in place attachment research

Research on place attachment in different study fields primarily deals with three research foci, although they are not always clearly indicated as such by the authors. These foci are:

(i) The dimensionality and measurement of place attachment, e.g., clarifying the relationship between place dependence and place identity, and exploring and establishing a theoretical basis for the psychological concept;

(ii) The assessment of meaning and intensity of place attachment in reference to different place settings and different people, e.g., place attachment to neighbourhood, community, city, or to a recreational setting, and investigating the real condition of place attachment phenomena; and

(iii) The associations of place attachment and various other variables, e.g., attractiveness as a causal antecedent, length of residence as a predictor or pro-environmental behaviour as a consequence, and investigating the extension of the psychological process.

The research efforts relating to the first and second foci show attempts to understand the nature of attachments people have towards different place settings. The research efforts in relation to the third area emphasises the relationships between place attachment and other factors and variables, which demonstrates the ability of this construct in explaining certain social issues. With development of this study field, researchers are attempting to reduce debates in relation to the first foci as a prelude to developing the second and third.

A review of the literature suggests that research advancing the concept of place attachment has been predominantly blocked by three difficulties: terminological and conceptual confusion, various measurement scales of place attachment and a lack of research on the mechanism through which place attachment develops. These challenges are in turn detailed below.

- *Terminological and conceptual confusion*

Terminological and conceptual confusion has blocked advances within this field, as noted in a number of review articles (Lewicka 2011). One possible reason for this confusion is that the realm of place attachment studies has involved several disparate research fields. Consequently, a very rich array of terms have been used by scholars to name people's bonds with places in their attempts to develop the concept in the contexts of their own research. Moreover, there has been not only a lack of uniformity in the nomenclature, but also subtle differences in the same terms which have been applied in different studies at different times. Thus, it is a challenge for researchers to assimilate the mixed messages presented in the literature and to understand the multiple place attachment terms, since it is often difficult to tell if researchers refer to the same concept with a different name or different concepts (Hidalgo & Hernández 2001). These terms include topophili[7] (Tuan 1974), community attachment (Kasarda & Janowitz 1974), rootedness[8] (Relph 1976), sense of place (Hay 1998b; Steele 1981), place dependence[9] (Stokols & Shumaker 1981), place identity (Proshansky, Fabian & Kaminoff 1983), community identity (Hummon 1986), place attachment (Stokols & Shumaker 1981; Williams & Roggenbuck 1989) and a number of others. Each of the terms grasps a somewhat different meaning, although there is a considerable degree of theoretical and methodological overlap among them (Lewicka 2011).

In an effort to deal with this issue, place attachment researchers normally have to more or less compare the terms in their study to clarify the key concepts for readers. Among all the place-related terms, place attachment is undoubtedly at the heart of the existing literature, which is thus selected for the current study as the key term describing relationships between people and places. A similar term, which has also been employed frequently and can be interpreted in both broad (various people-place bonds) and narrow (cognitive relationship) ways, is the term *sense of place* (Hay 1998; Steele 1981).

One may ask what the major differences between *place attachment* and *sense of place* are and why the former term rather than the later one is adopted in the thesis. When defined broadly as overarching concepts incorporating various people-place relationships, sense of place and place attachment, as Williams and Vaske (2003)

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[7] Topophili refers to the emotional bonds between human beings and the physical environment (Tuan 1974).
[8] Rootedness refers to a person's condition of being settled in a place (Relph 1976).
[9] Place dependence, and the next term place identity, are explained in Section 2.3.2.2.

observed, are equivalent in their uses. When used narrowly referring exclusively to a type of people-place relationship, most of the time sense of place is more cognitive than affection-based (Stedman 2002, 2003) while place attachment essentially involves emotions (Cuba & Hummon 1993; Fullilove 1996; Giuliani 2003; Hidalgo & Hernández 2001; Manzo 2003, 2005; Mesch & Manor 1998; Relph 1976; Riley 1992; Tuan 1974). Additionally, sense of place is used more frequently in humanist geography, while place attachment appears to be more popular in the domains of environmental psychology, recreation and other social sciences. It is an open option for scholars in place-related studies to determine which term to use. This thesis, conducting research in the context of tourism, follows the tradition to adopt the term place attachment, because it is the affective links between people and places that this thesis is interested in exploring. In addition to place attachment and sense of place, *place identity* and *place dependence* also appear in the literature with considerable regularity. As they are important for understanding meanings of place attachment, they are detailed within the discussion in the next subsection.

Researchers have attempted to compare, organise and fit together these various place-related concepts in encompassing frameworks that can assist in a comprehensive understanding of different dimensions of people-place bonding. For instance, from a connection point, Raymond, Brown and Weber (2010) organised the literature into personal, community and environmental contexts, each of which highlights a type of connection in the people-place relationship and related research approaches. In the same year, Scannell and Gifford (2010a) suggested a tripartite organising framework of place attachment, which synthesised various concepts into three dimensions, *People-Place-Process*, determining: who is attached; how affect, cognition, and behaviour are manifested in the attachment; and what is the attachment towards. The framework, yet to be further tested, parallels people, place, and place attachment forming process as three independent dimensions, which does not reflect how different groups of people and different settings of place could influence the process by which place attachment forms. It does provide, however, a comprehensive and coherent way of understanding place attachment. In Section 2.3.5, when introducing common types of people's attachment in the literature, this framework is adopted as a basis to summarise the classification of place attachment studies.

- ***Various measurement scales of place attachment***

The dimensionality of place attachment, as a focus of place attachment research, has been discussed intensively. Different views on the dimensionality of place attachment result in different place attachment instruments, most of which are in the form of scales. These various scales have different wording and numbers of items to assess place attachment, the concept of which may be given different definitions. This makes it difficult to compare research results.

For example, when it comes to the operational measurement of place attachment, understood as an affective bond, it is open to discussion whether place attachment is a one-dimensional or multidimensional construct. There are several debates. One view is that place attachment is a single dimensional construct (Lewicka 2010). Many researchers, however, consider place attachment as consisting of two dimensions: *place dependence* and *place identity* (Hwang, Lee & Chen 2005; Kaltenborn & Williams 2002; Vaske & Kobrin 2001; Williams et al. 1995; Williams et al. 1992; Williams & Roggenbuck 1989; Williams & Vaske 2003). Expanded models composing more than two dimensions can also be noted in the literature, such as the framework proposed by Hammitt, Backlund and Bixler (2006) comprising: *place familiarity, place belongingness, place dependence, place identity* and *place rootedness* among residents. Bricker and Kerstetter (2000) propose a model of *place identity, place dependence* and *lifestyle* among recreationists. Alternatively, models with totally new dimensions also exist, such as Feldman's (1996) psychological attachment model: *embeddedness, community, at-easeness, uniqueness of place, care and concern*, *unity of identities* (different from place identity for its joining of both self and referent groups), *bodily orientation, appropriation of place*, and *centeredness* [10]. Giuliani (2003) offers a comprehensive review of place attachment models employed in studies in the 1980s and the 1990s, along with the original wording of measurement items.

Exploring the dimensionality of place attachment is an ongoing process. So far, the two-dimensional scale of place attachment (*place identity* and *place dependence*) has received the most research attention, especially in leisure, recreation and tourism

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[10] Embeddedness: feeling at home and a sense of belonging; community: a sense of being tied to a social group; at-easeness: a sense of feeling unconstrained and comfortable in a familiar place; uniqueness of place: a belief in the uniqueness of a place (thus unequalled and irreplaceable); care and concern: a sense of responsibility and commitment for a home place; unity of identities: a joining of the identity of self and referent groups to physical settings; bodily orientation: unconscious orientation of the body and bodily routines; appropriation of place: perceived or actual possession and control over a place; centeredness: home place as a focal point of one's experiential space (Giuliani 2003).

contexts (E.g. Kyle et al 2004a, b). Place identity can be defined as the symbolic meanings people assign to a place which reflects how a person views his or her self-correspondence to the place (Proshansky, Fabian & Kaminoff 1983). Place dependence is reflective of functional attachment to a place (Jacob & Schreyer 1980). Existing studies regarding the reliability and validity of this scale will be further discussed in the methodology chapter.

- *Lack of research on the mechanism of place attachment development*

The mechanism through which place attachment develops is still largely ignored in the extant research and remains unclear (Lewicka 2011). Morgan (2010), as one of the few authors touching on place attachment formation, proposed a developmental model. This developmental model suggests that influential childhood experiences with place are generalised into an unconscious internal working model of place. Advancing with years, these experiences manifest subjectively in terms of preference and emotional links to places and, in the process, place attachment is formed. However, although the model highlights the importance of childhood experiences in the process by which place attachment develops, it provides less insight into the detailed processes through which place attachment functions and relates to other variables. As a result, the studies within the second or the third foci often deliver mixed and inconsistent results. For example, the relationships between place attachment and gender (as a common predictor) or involvement are positive in some studies and negative or null in others.

On the other hand, since studies on the mechanism by which place attachment develops are limited, the elements which are essential in forming place attachment are explored as an alternative way to understand the nature of place attachment. As an approach, the meanings and values people assign to a place as ''special'' and how they feel attached have been revealed in a number of studies. This can also be seen as meanings or values of place settings. For example, Brown and Raymond (2007) generated a list of values which make a place special for residents: home, aesthetic, recreation, therapeutic, biological diversity, wilderness, heritage, family connection, intrinsic, economic, spiritual, life sustaining, learning and future. In Section 2.3.3, research revealing the meanings of special place settings in the context of tourism is further discussed.

Additionally, experience is deemed as an essential element in the formation of place attachment. Place attachment is said to be created when people invest time, energy or

emotions through the direct experience of living, working or recreating, or through the indirect experience of exposure to related information, special memories or collective histories (Inglis, Deery & Whitelaw 2008). Some researchers believe that when the intensity of attachment is positively related to the amount of time, energy and emotion invested, residents will experience higher attachment levels towards their residential settings than places temporarily visited (Lewicka 2011). Actually, residence length is observed as one of the most important predictors of residents' attachment (Low & Altman 1992). Yet, the viewpoint that time is a predictor is argued by researchers investigating place attachment beyond residential settings. In this thesis, experience is seen as an important process for visitors to form place attachment towards tourism settings, thus a detailed discussion is given in Section 2.4.3.

Although limited by the lack of knowledge about how place attachment develops and the difficulty in comparing empirical findings because of conceptual confusion and different measurement scales, studies of place attachment across various fields still provide important insights by focusing on the commonalities of those studies. These commonalities include how the concept of place attachment plays an important role in place-related studies and what factors are associated with place attachment formations.

Role of place attachment in place-related studies

Place attachment is an important concept linking together people, place, and certain place-related phenomena or issues. Whilst it is not appropriate to assert that place attachment on its own can serve as an answer concerning all these issues, the combination of place attachment and other concepts provides a unique perspective to examine: (i) human emotion and affection in responding to environments; (ii) people's sensitiveness of environmental perceptions in relation to environmental changes; (iii) individual actions and behaviours responding to place-based issues; as well as (iv) collective attitudes responding to planned or unexpected environmental changes.

Central to the role of place attachment in place-related studies is its ability to explain perceptions and behaviours in people's interactions with places as a result of affection. It is reasonable to assume that in the context of tourism, place attachment can also function to provide an underlying explanation of tourists' perceptions and behaviours during their visits to tourism destinations.

Typologies of place attachment

After summarising the commonalities of place attachment research from different study fields, it is also important to observe the distinction between them to understand the uniqueness of a specific type of place attachment, which in this study is visitors' place attachment in tourism settings. In addition to different research traditions and foci between different study fields, one primary difference lies in the types of place attachment that each study field deals with. This sub-section briefly introduces three perspectives to classify place attachment based on Scannell and Gifford's (2010a) tripartite organising framework: according to the strength or nature of place attachment; according to who develops place attachment; and according to types of place settings to which people develop place attachment.

The first typology of place attachment was proposed by Riger and Lavrakas (1981) based on the strength of the emotional attachment. In their study dealing with community attachment, four patterns of attachment using physical rootedness and social bonding as the identified dimensions of place attachment were generated: low in both; high in both; high in social bonding but low in physical rootedness; and vice versa. The authors found that different patterns of attachment had aroused different profiles of people and place-related attitudinal and behavioural correlations. Therefore they successfully argued the importance of using typologies to understand the diversity of people-place bonds. Kyle et al. (2004b) also adopted a similar typology to cluster their participants into three groups using place attachment mean scores: high attached users, medium attached users and low attached users. Through this they examined the relationships between place attachment and other variables such as demographics, visitor motivations and preferences, and activity involvement, and found a number of common characteristics for each group.

Constructing a typology of place attachment according to who feels attached appears more complicated. People interact with place settings in three ways: as a member of a species; as a member of a particular culture; and as a unique individual (Riley 1992). Together they determine an individual's attachment level. Accordingly, place attachment can be theoretically divided into personal, community and ethnic levels. The uniqueness of an individual, a family and a community within the variety of different ethnic groups thus contributes greatly to the complexity of place attachment studies. For example, Knez (2005) found the intensity of attachments differ between city and country

residents. Hou, Lin and Morais (2005) have distinguished place attachment between Hakka and non-Hakka Taiwanese visitors to a historic tourism region. Sharpe and Ewert (1999) even used place attachment to categorise recreational visitors into place-oriented, social-oriented and activities-oriented types, and indicated that visitors in the first category show the highest levels of place attachment. Furthermore, a few studies focus specifically on certain subjects of the affective bond, such as elderly people (Rubinstein & Parmelee 1992) or those women whose home is their workplace (Ahrentzen 1992). In place attachment studies, the comparisons of people's attachment mostly refer to certain socio-demographic variables, such as age, gender, and ethnic background in the above examples or with other residential elements, such as length of time (Hernández et al. 2007) and locations of home (Knez 2005).

There are also various typologies of place attachment according to place, namely towards where people feel attached. People develop bonds to places that differ in several ways. The classic place attachment literature by Altman and Low (1992) showcases a number of authors who explored place attachment in various place settings from landscapes (Riley 1992), large-scale communities and neighbourhoods (Hummon 1992), to locations within neighbourhoods, such as compounds (Pellow 1992), plazas (Low 1992) and homes (Rubinstein & Parmelee 1992), and even objects (such as beds) as places (Belk 1992). Some of these typologies are summarised by Low and Altman (1992) as 'scale or size and scope, tangible versus symbolic, known and experienced versus unknown or not experienced' (p. 5). One broad way to classify place attachment is based on the function of place. Place attachment is divided into attachment to residential settings and attachment to leisure and tourism settings. In section 1.2, it was introduced that Manzo (2003) indicated the need to go beyond residential settings, which suggests a shift of research focus onto place settings with functions rather than home and permanent residence. As previously mentioned, the majority of place attachment studies focus on attachment to residential settings, but there is increasing attention now being afforded to leisure, recreation as well as tourism settings.

2.3 Place attachment in tourism

2.3.1 Overview

This section provides an overview of place attachment studies in the context of tourism. From the viewpoint of the current study, a context for tourism place attachment is

created when the place setting in which attachment is studied is specifically linked to a tourism-related place, or when the people who feel place attached are tourists.

Place attachment was first introduced to leisure and recreation studies in 1981 (Schreyer, Jacobs & White 1981; Wickham & Kerstetter 2000) and later exclusively to tourism. There are several factors which have indirectly contributed to tourism researchers' growing interest in the relationships between people and places in tourism. Lewicka (2010) briefly summarised them as: (i) the economic processes in which high-amenity rural areas have been converted to recreation and tourism places; (ii) the increasing affluence of western societies in which people can afford to participate in outdoor recreational activities, resulting in more leisure tourists; and (iii) the accompanying growing scholarly attention afforded to conservation and ecosystem management strategies. Developing tourism destinations, more visitors and more complex destination managements combined make tourism a more complicated phenomenon which requires a greater understanding of tourist-destination relationships, especially in relation to contemporary tourism that is shaped by globalisation and advanced technology.

The literature review of place attachment in tourism reveals three primary ways in which the concept of place attachment is applied to tourism:

(i) The relationships between local residents' attachments towards their community and their perception of and support towards local tourism development (e.g., Gu & Ryan 2008, Hallak, Brown & Lindsay 2012);

(ii) The impacts of tourism development on change of local residents' place attachment levels (e.g., Su & Wall 2010); and

(iii) The place attachment of visitors to tourism settings and its associated variables, such as causal antecedents, predictors and consequences (e.g., Tsai 2011), in which the consequences are usually discussed in terms of certain behaviours or perceptions.

The first two ways, although of great importance in understanding the relationship between local communities and tourism development, are not the foci of the current study. As a brief introduction, research findings dealing with the relationships between local residents and their community reveal that the level of residents' place attachment to their community can affect host community support towards tourism development. It might not only influence residents' attitudes or perceptions (Gu & Ryan 2010), but also

create a positive effect on local entrepreneurial self-efficacy and performance (Hallak, Brown & Lindsay 2012).

In turn, the practice of tourism development in a community influences local residents' place attachment towards the community. For example, in Su and Wall's (2010) study, it was found that through involvement in a heritage tourism development, residents' place attachment towards their community was enhanced due to increased recognition of the community value and local attractiveness. The results in place attachment studies echo the current research trend in tourism scholarship regarding the impacts of tourism development, in which the concerns of local communities about nature and heritage sometimes outweigh the perceived advantages of economic development (Gu & Ryan 2008)

However, in most cases there is a lack of consensus regarding residents' place attachment towards their communities experiencing tourism development. Many reasons can contribute to this lack of communality, such as spatial level differences (home, neighbourhood, city etc.), birth place, age differences (Kerstetter, Bricker & Li 2010), perceived economic options or employment opportunities introduced by tourism, length of residency and the perceived intrusiveness of particular tourism developments (Gu & Ryan 2008). In some circumstances, residents' place attachment was deemed not having significant impacts. More influential factors existed such as perceived cost-benefit of a particular tourism development, the use of tourism resources, the state of the local economy and the eco-centric values of residents and the community (Gursoy, Jurowski & Uysal 2002).

The current study however is interested in the last link which demonstrates the affective bond between visitors and tourism settings. Studies of visitors' place attachment are still limited and further understanding of the concept of place attachment may facilitate improved knowledge of visitors' behaviours in tourism settings. Further discussion in relation to this focus is provided below, and in the process of doing so the research interest of the present study is further refined.

2.3.2 Debates on visitors' ability to develop attachments towards destinations

Theoretically, people may feel attached to any place, although not to the same degree. In Lewicka's (2010) recent review article, a comparison section between locals and newcomers (those who are considered ''foreign'' to the local community, e.g., new

settlers, seasonal residents, occasional tourists) in reference to their attachments has provided two opposing viewpoints as to whether tourists and other newcomers can form attachments to places they visit to the same degree as residents.

According to the traditional viewpoint, recognising that locals can develop strong attachments to "their places", it has been questioned as to whether newcomers have the capacity to develop attachments to places which can be said to be "not theirs". Researchers Tuan (1975), Relph (1976) and Porteous (1976, cited by Lewicka 2011) initially raised these doubts, and Hay (1988) more recently shared the same view by suggesting that a true sense of place attachment can be developed only by locals who have been raised in the place or have resided there for many generations. Their points of view can be briefly concluded as: (i) newcomers are consumers rather than creators of places, therefore, they cannot share the values of the real community but rather endanger the true character by bringing in foreign ways of life (Stedman 2006); and (ii) the short time of "encounter" with a visited place does not allow people to create new attachments to it. Instead, for a few people, it enhances their old attachments to their real home (Porteous 1976). As Kaltenborn and Williams (2002) point out, conclusions from this perspective are mostly assumptions and have placed equivalence on residence length and attachment to the place of residence.

Conversely, later researchers (Kaltenborn & Williams 2002; Stedman 2006) express strong disagreement with this traditional viewpoint. They believe newcomers are capable of forming strong attachments to a place visited through short term interactions. Their claims have been supported by both theoretical arguments and empirical evidence (Brown & Raymond 2007) which has shown the existence of strong affective bonds between newcomers and the places they visit.

Table 2.1: Sample means of quantitative research on place attachment in environmental psychology, leisure, recreation and tourism settings

Authors	Study Settings (type of respondents)	Mean levels of place attachment reported	Measurement scales of place attachment (1~5)
Hwang et al. (2005)	Nature-based national parks (tourists)	Place Identity: 3.07 Place Dependence: 3.77	Place identity & Place dependence
Gross & Brown (2006)	Visitor information centres (tourists)	Place Attachment: 2.59-2.92*	Place identity & Place dependence
Bricker & Kerstetter (2000)	River rafting (visitors)	Place Identity: 3.66 Place Dependence: 2.94	Place identity & Place dependence

Kaltenborn & Williams (2002)	National parks (visitors)	Place Attachment: 2.9-3.6*	Single dimension
Kyle et al. (2003)	Scenic area (visitors)	Place Identity: 3.57 Place Dependence: 2.85	Place identity & Place dependence
Kyle, Absher & Graefe (2003)	Hiking trail (visitors)	Place Identity: 3.68 Place Dependence: 2.89	Place identity & Place dependence
Kyle, Mowen & Tarrant (2004)	Hiking trail (visitors)	Place Identity: 3.65 Place Dependence: 2.83	Place identity & Place dependence
Moore, Roger L. & Graefe (1994)	Recreation trails (visitors)	Place Identity: 3.65 Place Dependence: 3.19	Place identity & Place dependence
Moore and Scott (2003)	Park and trail (visitors)	Place Attachment: 3.55-3.62*	Place identity & Place dependence[†]
Williams et al. (1992)	Wilderness areas (visitors)	Place Attachment 3.10-3.40*	Place identity & Place dependence
Raymond, Brown and Weber (2010)	Adelaide and Mount Lofty Ranges region (landholders)	Place Identity:3.95 Nature Bonding:3.83 Place Dependence:3.47 Family Bonding:3.11 Friend Bonding: 3.36	Place Identity, Nature Bonding, Place Dependence, Family Bonding & Friend Bonding

Note. Adapted from Gross and Brown (2006)
* Multi sample sets.
† Scale ranges from 1 to 6.

Table 2.1 indicates some of the mean levels of place attachment intensity reported in empirical studies of place attachment in environmental psychology, leisure, recreation and tourism contexts, using the survey method. Despite the difference in place settings studied (e.g., home, outdoor recreation settings), measurement scales used and specific items in each scale, Table 2.1 provides a visual sense of the intensities of attachments recorded in tourism, leisure and resident settings.

It shows that the attachment levels of newcomers on face value appears to sit at a similar level to that of residents, but is lower in some circumstances (Kaltenborn & Williams 2002). There are also circumstances in which tourists do not always think they are emotionally attached to tourism settings. The empirical evidence shows mixed results in a few comparative studies of both newcomers and residents. For example, McHugh and Mings (1996) studied seasonal migrants who divided their time after retirement between a permanent home and a winter home, and found that their attachments to the winter home differed greatly among different migrants: some of the users were more attached to their permanent home than to their winter home and were

grouped as "still-rooted"; some were little-attached to both and were grouped as "footloose"; and others did not show any preference. Stedman (2006) found seasonal or weekender users had higher attachment levels than year-round residents and infrequent visitors.

The evidence supports the ability of newcomers to develop attachments to places visited. On this basis, the current study postulates that tourists can form attachment to tourism settings. The evidence further gives rise to the question: why do some of the newcomers have higher attachment levels and some do not? This question does not have an answer that is widely recognised, but is of interest to the current study. Some studies suggest that time spent in a place is a key variable. Nielsen-Pincus, Hall, Force and Wulfhorst (Nielsen-Pincus et al. 2010) found that time spent in a place has a positive relationship with attachment intensity among different types of residents. Briker and Kerstetter (2000), in a study comparing two groups of whitewater recreationists, also found that more specialised recreationists showed higher attachment levels and thus suggested that it is the experience in a place that can enhance place attachment. This opinion is also shared by researchers considering time as a predictor of attachment (Kelly & Hosking 2008). Moreover, another hypothesis suggests that newcomers are attached because of environmental features while locals feel attached because of community ties and social networks. This hypothesis was tested by Stedman (2006) who found that different meanings ascribed to a place accounted for place attachment in different types of newcomers. Some newcomers were attached because of the local activities and environmental qualities of a place. Types of tourists or trips may also contribute to differences in tourists' attachment levels.

Given the above discussion, it is reasonable to accept that at a general level, visitors, especially infrequent tourists, develop different and comparatively weaker attachments to a place visited, compared with local residents who reside in the area or other newcomers who seasonally stay there. In some circumstances, tourists' attachment is strong whereas in some other circumstances, tourists' attachment is very weak. The length of interaction time and the meanings or values which tourists seek in tourism settings, together with the inherent diversity of tourists and tourist experiences, possibly contribute to the mixed empirical results of visitor attachment. One of the key objectives of place attachment research should be to understand what are the elements associated with a high level of visitors' place attachment.

2.3.3 Meanings of special places to form visitor attachment

The current study specifies its research interest in visitors' place attachment towards tourism settings. In Section 2.2.2 it was highlighted that in place attachment research, place meanings and values which people associate with special places that they feel attached to have been researched to understand the reasons behind the formation of people's place attachment. The difference between residential settings and tourism settings in terms of their meanings has been proposed as one reason resulting in the difference between residents' and tourists' attachment. One classification of place meanings may help to understand this difference: anchors versus magnets (Beckley 2003). In this simple classification, anchors refer to factors that prevent people from moving away from a place whereas magnets refer to factors that attract people to a place. Meanings and values of tourism settings which make visitors feel attached belong largely to magnets. Conversely, meanings and values of residential settings can be included as anchors. This classification is untested, but it is 'theoretically inspiring' (Lewicka 2010, p.9) because of its ability to incorporate several other classifications of attachment, such as physical (e.g., natural beauty, nice living environment) and social factors (e.g., close neighbourhood ties, rootedness, and religious symbolism). In addition, it highlights one of the key features of tourism settings in place attachment research, which is "attractiveness".

The meanings and values which cause people to think of a place as special and feel attached to it have been directly investigated in a number of qualitative studies (e.g., Brown & Raymond 2007). Smaldone et al. (2005) has identified a list of meanings of special places in natural parks, including physical setting, wildlife viewing, personal emotional connection, outdoor recreation, social ties, special ''first time'' moments, tradition or time, undeveloped nature, getting away, inspiration, peaceful, solitude, good lodging or food, cultural or historical importance, and home. Among them, the most common meanings were physical setting, outdoor recreation, emotional connections, wildlife viewing, getting away, social ties and solitude. Brown and Raymond (2007) combined fixed options and open-ended questions in a map-based measurement with sticky dots (5 to 50 points) to identify landscape values and evaluate the importance of each value. Results among visitors to two regions in Australia generated landscape values from high importance to low including aesthetic, recreation, future, heritage, wilderness, biological diversity, therapeutic, economic, life sustaining, intrinsic,

knowledge and spiritual. The method with a component of importance assessment gave Brown and his colleagues an advantage over Smaldone et al. in correlating the intensity of meanings with the intensity of place attachments.

The meanings and values of tourism settings can also be indirectly revealed by the dimensions generated in quantitative scales. Compared with qualitative studies, quantitative scales are less obvious but more categorically organised. The different meanings causing attachment are hidden in the dimensionality of the multidimensional scales. Take the frequently used two-dimensional scale of place attachment (place identity, place dependence) (e.g., Gross & Brown 2008). The two dimensions respectively signal the symbolic significance of the place to an individual and the value of its ability to satisfy certain individual demands. Namely, the two-dimensional place attachment scale demonstrates that the functional benefits and symbolic meanings of a place can trigger tourists' attachment. More specifically, Tsai (2011) added uniqueness, trust, attractiveness and self-connection as causal antecedents of tourists' affective bonds in a model linking place attachment to frequency of revisitation. In addition to attractiveness, Hou, Lin and Morais (2005) proposed enduring involvement and Lee (2001) found that travelling to a destination as part of a family tradition would make visitors feel attached.

Existing studies demonstrate that attractiveness lies at the very heart of meanings and values of tourism settings in relation to tourists' attachment (e.g., Hou, Lin & Morais 2005). At the same time, existing studies also demonstrate the variety of meanings, which are reasonably assumed to be associated with motivations. For example, the motivations of education, gathering with family members and sightseeing can accordingly correspond to place values such as knowledge, family traditions and wilderness.

Furthermore, Smaldone et al. (2005) noticed in their study that when visitors were asked to freely identity special places, they identified varying place settings and most of them chose specific sites and attractions, as did the visitors participating in the study undertaken by Brown and Raymond (2007). In this case, two questions can be raised: (i) whether tourism attractions can trigger visitors' place attachment; and (ii) given that different types of attractions are endowed with different meanings, do they also arouse different levels of attachment? Research is needed to address these lines of enquiry.

In addition to the place meanings discussed above as a way to understand visitors' place attachment, there has been a developmental model postulated by Zhou and Xu (2009) regarding how tourists' place attachment forms. Taking a psychological approach, Zhou and Xu's model suggests the following process: firstly, individuals obtain relevant information freely and form a basic concept of place in their mind; secondly, driven by certain motivations and with the acceptance of the concept of place, actual travel or visitation is stimulated; and thirdly, individuals compare the anticipated concept of place with the reality of it after their visiting experience. If the latter surpasses the former and meanwhile conforms to individual identities, place attachment is likely to occur. Although the model is yet to be tested, it has its meaningful implications. It suggests a possible evolvement of place attachment prior, during and after a tourist trip, and especially the role of experience in this evolvement as an evaluation of pre-formed place impression and key in the final formation of place attachment.

2.3.4 Influences of types of place settings on place attachment

This section discusses research dealing with place attachment across various place settings. Given the limited number of studies undertaken in tourism on visitors' place attachment, this section is informed not only by studies from leisure, recreation and tourism, but also from environmental psychology. The purpose of this section is to understand the influences of types of place settings on place attachment itself and place attachment research.

Existing research on place attachment in the contexts of tourism involves few comparative studies undertaken simultaneously across different tourism settings. A difference in predictors was found in one instance between different destinations, using a city famous for its historic treasures versus a beach famous for family oriented facilities and activities (Lee 2001). In the study, travelling to the destination as a family tradition had a much stronger influence on attachment to the latter destination. This study suggests that the degrees of influence of certain variables are strongly associated with the core attractiveness of a destination with reference to place attachment.

In recreation studies, the difference between attachment to a specific place and to a type of place has been raised (Williams et al. 1992). These authors compared *place attachment* that values a place setting as an end in itself and *wilderness attachment* that values a setting as a member of a class of settings. Beyond the dominant similarities, the

results of the study suggested a valid distinction through a number of predictors: (i) user history, where the influence on place attachment appears to be limited to a specific experience at the site, whereas wilderness attachment is linked to both site-specific and general wilderness experiences; (ii) substitution, where place attachment is associated with lack of substitutes while for wilderness attachment the link appears inconsistent; and (iii) certain socio-demographic characteristics, such as education and income that are linked to place attachment and organisational membership which is linked to wilderness attachment. However, the items in the Likert scales that Williams et al.'s (1992) study developed on face value demonstrated limited ability to assist participants to effectively distinguish between their attachments towards a specific place or a type of place, since these two attachments are strongly associated and inter-related.

In reviewing place attachment studies in leisure and recreation contexts, differences between empirical studies on natural places (e.g., natural parks) and activity-oriented places (e.g., fishing sites) have been observed. The differences are not based on a single study but are built on comparing and summarising a number of existing studies. Firstly, with respect to the dimensionality of place attachment, although place identity and place dependence have been adopted as two dimensions in studies in both contexts, lifestyle has been raised only in studies conducted in relation to activity-oriented recreation places (Bricker & Kerstetter 2000). Secondly, in relation to the predictors of place attachment, specialisation as a predictor has been raised only in regard to activity-oriented places (Bricker & Kerstetter 2000) whereas many physical environmental features are discovered to affect attachment to natural recreation places. Thirdly, with regard to the consequences of place attachment, environmentally responsible behaviour has been raised only in studies of natural places (Halpenny 2010). So far, the number of studies concerned with place attachment to natural places is greater than those focused on activity-oriented recreation places, when also taking into account landscape management or natural resource management studies.

Research dealing with residents' attachment towards different residential settings can also inform the current study. In environmental psychology, earlier researchers believed that the neighbourhood attracted higher levels of residents' attachment, and that the community and the neighbourhood were always the default as research settings. However, several authors who simultaneously assessed people's attachments to residential places using different spatial levels found that neighbourhoods arouse the

weakest attachment. For example, Brown et al. (2003) found that home attachment is much higher than block attachment in a block with a history of gradual decline. He explained the possibility as 'attachments can be very strong in primary territories, where one can feel secure enough in a place to cultivate positive bonds with it and experience it as an extension of the self' (p. 268).

More recently, Hernández et al. (2007), in research comparing place attachment and place identity in samples differentiated according to place of origin, native and non-native, have simultaneously compared residents' place attachment to different places: neighbourhood, city and the island[11]. Their research involved two studies. The first one, based on samples of university students, assessed the attachment of three groups (natives, intra-island, and extra-island) and found that for the former two groups, attachment to the neighbourhood was lower than attachment to the city and to the island, but for the latter group, the difference between the three environments was not significant. The second study, comparing natives with immigrants, showed a similar result in that the attachments developed by both groups towards the different environments, followed the same pattern (island-city-neighbourhood), though the difference for the group of immigrants was not noticeable. Although weakened by the samples that predominantly consisted of students, Hernández et al.'s (2007) finding that the highest levels of place attachment was to the island and the city and to a lesser extent to the neighbourhood supports earlier studies that simultaneously analyse place attachment across several spatial levels (Cuba & Hummon 1993; Hidalgo & Hernández 2001).

Regarding why neighbourhoods arouse a weaker attachment than cities, Hernández et al. (2007) explained that a neighbourhood may represent an environment of greater mobility and less stability compared with a city and the island in the context of the study, thus people regard it as less important in their self-identity system. Meanwhile, they suggested that certain characteristics, such as size of place which is related to the analysed physical environment, may also contribute to the affective distinctiveness of place and should be clarified in further research. Another explanation, which can contribute a better understanding of place spatial levels in recreational settings, takes into account the strength of symbolic meanings which different levels of a place can have (Hidalgo & Hernández 2001). This explanation implies the possibility that, in a

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[11] The studies were conducted in The Canary Islands.

tourism context, tourists may feel strong attachment to a destination that is popular or to an attraction that is the flagship of the destination.

In tourism contexts, there are currently limited studies exclusively assessing visitors' place attachment to tourism settings of narrower level than destinations, such as attractions in the destination, nor comparing between attachments to different tourism settings representing different place meanings. Given the discussion in this section, research on visitors' place attachment towards other tourism settings may contribute a better understanding of visitors' affective bonding in the contexts of tourism.

2.4 Visitors' place attachment and associated factors

As noted earlier, investigation of the relationships between place attachment and various variables is one of the primary foci of place attachment research. In tourism research dealing with visitors' place attachment, the associations between levels of place attachment and other variables are similarly one of the major topics. This section reviews existing empirical studies on visitors' place attachment in depth with the purpose to draw a thorough picture of visitors' place attachment and related variables. Literature reviewed in this section derives not only from leisure, recreation and tourism studies, but also partially from environmental psychology and, to a lesser degree, natural resource management.

Associations have been proposed or observed between visitors' place attachment and a number of variables. Some of them account for only a specific study site while some apply to more general places. Take Williams et al.'s (1992) study for instance. Based on data from four wilderness areas, they found *previous visits*, *having a rural residence*, *a setting focus*, *visiting alone*, *visiting on weekdays*, *hunting in the area*, *sensitivity to site impacts* and *horse encounters* were associated with both attachment towards the studied site and attachment towards wilderness. *A lack of non-wilderness substitutes* and *lower income and education levels* were associated with place attachment towards the studied site only, whereas *membership in wilderness and conservation organisations*, *visiting more wilderness areas*, *a preference for longer visits*, *participation in nature study*, *sensitivity to sight and sound intrusions* and *hiker encounters* were associated with wilderness attachment only. Based on this example, it can be noted that, among these many variables, some are very special in that they do not apply to general places, such as *sensitivity to horse encounters* and *participation in nature study*. The former variable,

sensitivity to horse encounters, applies only to sites where horse encounters are possible while the latter *participation in nature study* only applies to certain times when there is a study being conducted. On the other hand, some of them can be included in a more inclusive variable (e.g., incorporating *hunting in the area* into a broader variable such as *activity involvement*), or can reflect an influential factor (e.g., *visiting alone* standing for the factor of travelling alone or with partners), or can be applied directly as a variable (e.g., *previous visits* and *education),* which provide implications for more general contexts.

This section combined variables that have been examined or underlined with general implications in previous place attachment studies. In the compilation process, it has been found that those variables can be divided into three groups: visitor-related factors, attraction-related factors, and experience-related factors. This division is with reference to Scannell and Gifford's (2010a) tripartite model. It replaces the *psychological-process* aspect with *experience*, referring to pre-, during and post- visitor experiences in this case.

This section does not aim to specifically clarify the causal relationships between engaged variables and place attachment, because many of the relationships arising between them confront mixed empirical results. It has also been observed that the research efforts allocated to the three groups of variables are unequal. Visitor-related and experience-related factors have received much more attention than place-related factors. All these variables are discussed in turn in the following sub-sections.

2.4.1 Visitor-related factors

Demographic factors
- *Gender, age, and level of education*

Levels of place attachment may vary according to the demographic characteristics of individuals including gender, age, level of education, level of income, social status, ethnic group, cultural background, nationality, etc. Indeed, residents' attachment studies have witnessed many efforts to investigate associations between types of demographic variables and attachment intensity. Likewise, some associations between demographic variables and visitors' attachment have also been studied. It seems reasonable to assume that these demographic variables produce effects on levels of people's place attachment to their residence and to recreation settings for different reasons. For example, gender

influences neighbourhood attachment because of the social role woman play as household managers (Ahrentzen 1992). However, this social role cannot be greatly reflected in the context of tourism. Instead, gender is significantly linked to attachment to, for instance, outdoor recreational places, possibly because males and females are socialised differently with respect to outdoor activities (Johnson 1998). Males are encouraged to explore and are more likely to have higher attachments, compared to females who are taught to adapt to unknown spaces and are likely to be more hesitant in participating in outdoor activities (Johnson 1998).

Beyond gender, age is observed to have a negative effect on place attachment by Johnson (1998) in his study assessing people's attachment towards wilderness. This study did not provide possible reasons for this association. In the same study, education, although not significant, was found to show a positive coefficient, which is in contrary to Williams et al.'s (1992) finding that lower educated visitors showed higher place attachment to wilderness parks. The reasons behind this mixed data may be that the variables are mediated by another factor, or that different types of attachment and different types of places have an effect on the relationships.

- *Cultural background and ethnic group*

Place attachment can be interpreted through two dimensions, place identity and place dependence. Cultural background plays an important role in the formation of place attachment in terms of influencing a person's self-identity, which consequently influences place identity. Hou et al. (2005) found that in relation to a cultural destination, a tourist from the same cultural background as the host community developed place identity while one from a different cultural background tended to express place dependence. Culture links its people through shared historical events, religions, values, symbols and other experiences (Virden & Walker 1999).

Similarly, ethnic background also influences place attachment due to shared collective memories. Johnson (1998) found that a difference existed between African Americans and Caucasian ethnic groups with respect to their attachment to wilderness areas, and explained that one possibility lies in the special collective memory of the former ethnic group.

Nationality does not necessarily indicate one's current residential location, but can indicate one's cultural background or ethnic group. It may have similar effects to

cultural background (Gross & Brown 2006), although there is currently a lack of studies comparing visitors in reference to nationality.

Trip pattern

Trip pattern is also observed to be related to visitors' place attachment. One aspect is the visiting travel party, in other words, travel partners on the trip, in which associations with place attachment are found among conditions like visiting alone (Williams et al. 1992) or visiting with family members (Lee 2001). Another aspect, although showing insignificant correlations in a few studies (Williams et al. 1992), is the length of trip. In addition, local, domestic or international visitor types can be measured through origin place, culture or distance, which also reflects the closeness of visitors to places. Motivation is deemed as another aspect of the trip pattern and is discussed in detail in Section 2.4.3.8.

Past experience

What people think a place symbolises is likely to be strongly associated with past experience in terms of memories and experiences from child and/or as adulthood (Williams et al. 1995). As the meaning-mediated model of Stedman (2003) explains, individuals are attached to the physical environment since it represents their past, within which the childhood experience has stronger influence than adult activities (Morgan 2010). People's self-identity, and thus place identity that can be seen as a part of self-identity, may evolve over their life and travel experience (Measham 2003; White & White 2004). Negative past experiences have negative effects on attachment (Johnson 1998). Overall, over the life course, ongoing repeated experiences result in enhanced attachments (Stedman 2003), which include a tendency to define oneself in terms of a place, as well as developing emotional ties.

With regards to a visitor' first trip to an attraction, attachment may be formed before the trip through media exposure to the place; consequently, repeat visitation may strengthen this attachment (Zajonc 2001). For example, as Moore and Scott (Moore, R. L. & Scott 2003) asserted, people who live near a site generally have a higher place attachment to it than those who live far away, as they have more opportunities to visit the site and consequently accumulate more onsite experience. Similarly, Jones et al. (2000) found that among visitors to Cumberland Gap[12] those rated as *more experienced* felt a greater

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[12] Cumberland Gap is a pass through the Cumberland Mountains region of the Appalachian Mountains at

sense of belonging to that environment than first-time visitors. The experience and evaluation of previous trips are integral to the formation of place attachment to destinations. Even though less direct, when people are exposed to a place through the media or they can relate the place to similar past experiences, then place attachment is likely to occur (Inglis et al. 2008). According to Zajonc (2001) supported by empirical evidence, the ''repeat mere exposure'' to information provides a flexible means of forming selective attachments and affective dispositions, even when the person has not been aware of the process. The last process of attachment is important when dealing with the tourists' attachment to tourism destinations. This finding also suggests the importance of marketing tourism destinations and products to potential markets.

2.4.2 Attraction-related factors

Attraction-related factors refer to factors associated with place settings regardless of visitors and the trips they take to places. For example, the nature of the attractions (e.g., natural or man-made) or the location of the destination are not affected by visitors and their experience. Existing leisure or tourism studies linking place attachment with place-related factors are very limited, except for the nature of places which has been discussed earlier in Section 2.3.4. The only other attraction-related variable possibly influencing place attachment to the best of the researcher's knowledge is *membership*, which is introduced below.

Membership

Membership may encourage place attachment (Inglis et al. 2008). Attachments will be encouraged through memberships not only to organisations that use the resources available in a place but also to those places that provide satisfactory experiences. The former type of membership may greatly reinforce place identity by increasing opportunities to socialise in a place. However, Hailu, Boxall and McFarlane's (2005) empirical study did not support this view. Their findings suggested that organisational membership had a statistically significant influence on visitors' visiting habits and number of trips, but not place dependence.

One thing about membership is that not many tourism attractions provide opportunities for membership. Normally, there is a possibility for a group of similar attractions, such

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the junction of the U.S. states of Tennessee, Kentucky, and Virginia. Famous in American history for its role as one of the key passageways through the lower central Appalachian Mountains, it was an important part of the Wilderness Road and is now part of the Cumberland Gap National Historical Park.

as museums or zoos, to cooperate and offer a joint membership opportunity to visitors (Bhattacharya, Rao & Glynn 1995). For example, Zoo Victoria provides its registered members unlimited entry opportunities to three zoos in Victoria[13]. This variable is applied only to certain tourism contexts.

2.4.3   Experience-related factors

Activity involvement

The relationship between activity involvement and place attachment has been the subject of many studies. In regard to a neighbourhood or community, involvement can be expressed in terms of participating in community events or activities, being active in electronic networks or engaging in community development, whilst in the leisure, recreation and tourism contexts, involvement mainly refers to participation in recreation activities.

Stronger place attachment will encourage more involvement or participation and vice versa. Lewicka (2005) interpreted the former causal direction in terms of higher attachment leading to greater motivation to act. On the other hand, being active in a place leads to the development of associated attachment (Rollero & De Piccoli 2010). However, researchers (Kyle et al. 2003, 2004a) have observed that the influence of activity involvement varies over the characteristics of both activities and attachments. Local activity involvement appears to be key to the development of place attachment. Gross and Brown (2008) applied place attachment and activity involvement within a tourism context. They conducted a survey of tourists in five South Australian tourism regions in which involvement was conceptualised as a multidimensional construct consisting of the dimensions of attraction, centrality to lifestyle, self-expression and food and wine. Place attachment was also conceptualised using the two-dimensional model (place dependence and place identity). The findings indicated that the combined use of involvement and place attachment is applicable to tourism settings and measures the predictive relationships between the constructs of involvement and place attachment.

Recreational specialisation

Recreational specialisation is used to describe whether visitors are skilful in doing certain sports and activities. It can be seen as a fixed characteristic of visitors at a

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[13] The three zoos are Healesville Sanctuary, Melbourne Zoo and Werribee Open Range Zoo.

certain point of time, thus perhaps should be discussed together with the visitor-based factors in Section 2.4.1. However, as it related to involvement, specialisation is introduced here. As mentioned in the preceding section, past experience and personal involvement have been shown to have an impact on individual's attachment to a place. The term recreational specialisation, which refers to 'a continuum of behaviour from the general to the particular, reflected by equipment, and skills used in the sport and activity setting preferences' (Bryan 1979, p. 29 cited in Bricker & Kerstetter 2000), can effectively combine these two influential factors in the leisure and recreational context. The dimensions of recreational specialisation, originally proposed by Bryan, include amount of participation, type of technique and settings preferred. Through reviewing the literature on specialisation in relation to place attachment, it can be seen that there has been debate about whether additional dimensions, such as centrality to lifestyle, should be included (Fishwick & Vining 1992; Moore, Roger L. & Graefe 1994).

How levels of specialisation relate to levels of place attachment remains unclear. It makes intuitive sense that levels of specialisation would be associated with attachment because a higher level of specialisation in certain activities entails at minimum, repeated interactions with a place, which then results in a higher level of place attachment (Kyle et al. 2004a; Kyle, Mowen & Tarrant 2004). The relationship between repeated interaction and attachment is detailed in the following paragraphs.

In Bricker and Kerstetter's (2000) investigation of the relationship between levels of specialisation among white-water recreationists and their attachments, results showed that kayakers and rafters with advanced specialisation levels evidenced greater place identity while place dependence was unrelated to specialisation. In another study seeking to assess how level of specialisation relates to place attachment, Kyle et al. (2003) hypothesised that activity involvement would be related to place attachment consisting of place identity and place dependence. Two of the three involvement measures (attraction and self-expression) were related to place identity for all day hikers, overnight hikers, and section hikers of the studied Appalachian Trail whereas only self-expression was related to place dependence.

In the context of tourism, recreational specialisation only applies to activity-based or sports-based attractions. Therefore, although there may be a positive relationship between specialisation levels and attachment levels, such a relationship is likely to be very weak for some tourism attractions, such as natural parks for sightseeing or cultural

sites famous for festivals.

Environmental perception

Environmental perception is another factor influencing place attachment. The findings show that a better perceived quality of environment, both physical and social, favours greater place attachment (Mesch & Manor 1998; Scannell & Gifford 2010b). However, when it comes to the influence of place attachment on the perception or evaluation of the environment, the literature reflects two opposing views. Some scholars have found that people with high levels of place attachment are inclined to perceive the environment positively (Bonaiuto et al. 1999), whilst other results have demonstrated that people highly attached are likely to perceive the environment as problematic (Kyle et al. 2004a). For example, Kyle et al. (2004a) studied hikers' place attachment towards a hiking trail and their evaluations of the environmental and social conditions of the trail. Results in this study showed highly attached visitors evaluated the setting conditions more critically than low attached visitors, and the difference was significant.

The reason behind these mixed findings is currently unclear. One reason may be what Stedman (2002, 2003) and Rollero and De Piccoli (2010) suggested: the environmental perception relies not only on the level of attachment visitors perceive at the tourism settings, but also on information (e.g., introductory information and events update information) available at the place. In addition, these contradictory findings were based on different contexts where participants had different familiarity with the studied locations. Visitors with greater experience could have more information to evaluate a setting condition, and be more sensitive to changes in the setting environment. Therefore their subjective evaluation standards may, to some extent, contribute to these varying results.

Social relationships

The presence of social relationships in a place directly affects place attachment (Bonaiuto et al. 1999). Low and Altman (1992) asserted that place attachment may be grounded on or incorporate social relations. In line with this, Hay (1998b) and Fried (2000) found respectively that place attachment is tied to memories or experiences shared with others in a place. Meanwhile, the enhancement of this emotional tie will in turn benefit the development of social relationships (Kasarda & Janowitz 1974). The understanding of the correlation between social relationships and place attachment can

be assisted by an understanding of the social ties or close interpersonal relationships such as place meanings (*cf.* Section 2.3.4). In the tourism context, visitors appreciate and involve themselves in a social relationship with an attraction, by means of interpersonal interactions with friends, relatives, other visitors or residents in the host community. In some circumstances, important memories of significant people can also be included as social relationships, because people feel attached to interpersonal memories in the form of place attachment.

Satisfaction and loyalty

Satisfaction can be conceptualised generally as transaction-specific satisfaction and cumulative satisfaction (Anderson, Fornell & Lehmann 1994). Transaction-specific satisfaction is how happy a customer is with a product or service at a certain time (Cronin & Taylor 1992), whilst cumulative satisfaction refers to a customer's evaluation of the total experience of a product or service to date (Johnson, MD & Fornell 1991). It has been suggested that the latter form of satisfaction directly influences customers' future behavioural intentions and is linked to visitors' place attachment (Johnson, MD & Fornell 1991).

Place attachment can enhance people's satisfaction (Ramkissoon, Graham Smith & Weiler 2013; Wickham & Graefe 2001). However, according to Stedman (2002, 2003), place attachment and place satisfaction can diverge. Stedman introduced the concept of "place satisfaction", as a general judgment of the quality of the environment in a place. In his case study, people who were highly attached but less satisfied were most likely to express an intention to act to protect the place. People who had high satisfaction accompanied by high attachment, on the contrary, did not intend to do so. Using a structural equation modelling approach, Ramkissoon, Smith and Weiler (2013) recently empirically confirmed that place attachment has a positive influence on place satisfaction and pro-environmental behavioural intentions whilst place satisfaction positively influences low effort pro-environmental intentions (e.g., willingness to pay for park use and subsidies) and, surprisingly, negatively influences high effort pro-environmental intentions. The explanation given by the authors was that visitors who are generally satisfied with their decision to visit the attraction for this result would be satisfied with its environmental conditions; therefore they would be less likely to see the need to improve the attraction's environment and accordingly may not perceive any need engage in high effort pro-environment behaviours.

Loyalty has been understood by earlier researchers as consisting of two dimensions: attitude and behaviour (e.g., Day 1969). Relationships between place attachment and loyalty, although examined by a few empirical studies, are still yet to be further clarified. Some researchers support that place attachment has mediated the relationships between loyalty and other factors, either partially or fully. For example, Zhang and Bai (2011) investigated the effect of place attachment as a mediator between destination brand and visitors' loyalty in terms of repetitive behaviours, recommendations to others, and participation. A later study conducted by Lee et al. (2012) focused on the role of place attachment as a mediator of the relationship between visitors' satisfaction and loyalty. They found satisfied visitors would develop a moderate level of place attachment towards a destination and consequently became loyal to the destination, although not all dimensions of place attachment predicted loyalty.

Other studies have suggested that the antecedent role of place attachment to loyalty is mediated by other variables. For example, Kyle et al. (2004d) used place identity, place dependence and self-expression to construct *involvement* and then hypothesised the causal relations between involvement and other constructs, including behavioural loyalty. The empirical results partially supported a link drawn among the studied constructs: visitors' involvement → their commitment → their resistance to change → their behavioural loyalty. In this study, visitors' commitment and resistance to change mediated their place attachment and behavioural loyalty. Yuksel, Yuksel and Bilim (2010) examined a model highlighting relationships among destination attachment, visitor experience satisfaction and future loyalty intention. In the model, place attachment and loyalty were multidimensional constructs, in which loyalty includes cognitive, conative and affective phases. The authors' hypotheses addressed a direct effect of place attachment on cognitive and affective loyalty and an indirect effect on conative loyalty mediated by satisfaction, which were then tested on a sample of 224 visitors to Didim, Turkey. The results were analysed using structural equation modelling and the majority of the research hypotheses were supported. The level and the nature of place attachment were shown to not only affect visitors' evaluations of their current experiences with a destination but also predict loyalty intentions towards the destination in the future; however, the extent of the influences differed for the various loyalty dimensions.

In addition, Lee at al. (2007) modelled loyalty with three dimensions, in which place

attachment was used to represent the attitudinal dimension of loyalty. The other two were conative and behavioural dimensions. Activity involvement and satisfaction were set as antecedent constructs to loyalty in a model that was tested among a group of forest visitors. Results showed that activity predicted attitudinal and behavioural loyalty whilst satisfaction caused attitudinal and conative loyalty. In other words, place attachment, seen as the attitudinal dimension of loyalty, was predicted by both activity involvement and visitor satisfaction.

Pro-environmental behaviours

Place attachment can lead to pro-environmental behaviours or environmentally responsible behaviour. Vaske and Kobrin (2001) conducted a survey on the relationship between place attachment and environmentally responsible behaviour. Their data supported the hypothesis that place attachment encouraged an individual's environmentally responsible behaviour and place identity mediated this relationship. Though some findings (e.g., Uzzell, Pol & Badenas 2002) suggest a negative relationship that speculates higher place attachment may cause less environmental friendly behaviours, the main stream of literature favours a positive relationship, as Vaske and Kobrin proposed. Furthermore, Scannell and Gifford (2010b) discovered that place attachment can vary by type, such as natural and civic place attachment, which then results in different types of pro-environmental behaviours. Attachment to natural places strongly influences people's pro-environmental behaviours while civic place attachment is not as predictive. Alternatively, Halpenny (Halpenny 2010) pointed out that pro-environment behaviour could be divided into everyday life behaviours versus place-related behaviours. Place attachment influences them in different ways but shows a positive link to them both. More recently, Ramkissoon et al. (2013) found that pro-environmental intentions are influenced not only by level of place attachment but also place satisfaction.

Travel preferences

Attachment can serve to shape a visitor's preferences for an attraction (Backlund & Williams 2003) and recreational demand (Hailu, Boxall & McFarlane 2005). While repeat visits to a site strengthen affective bonds, these affective bonds can also help to increase repeat visitation (Alegre & Juaneda 2006; Marles & Faulkner 2001; Marles & Watkins 2003). As mentioned above, attachment can be formed through written or visual information on a place, thus, place attachment is likely to favour a visitor's

intention to undertake a first trip or to re-visit a place at the decision-making stage.

Griffin, Wearing and Archer (2004) found that people who had never been exposed to national parks were unlikely to pay a first visit due to a lack of attachment. Hailu et al. (2005) combined typical variables in a travel cost model with the place attachment construct and suggested that place attachment formed through previous trips influences recreation demand and potentially impacts on consumer surplus estimates.

The current definition of a repeat tourist remains that of a visitor who has been to a destination at least twice; not much effort has been put into distinguishing between tourists who return frequently and those who return infrequently. For example, a person that visits a place on an annual basis as opposed to someone that visits a place for the second time long after his or her first visit are regarded as homogeneous (Marles & Watkins 2003). However, it is reasonable to assume that the two groups have different value for the tourism industry. Marles and Watkins (2003) suggested that place attachment may be a useful construct to help clarify differences between types of repeat tourists.

Expense attitudes

There is evidence, though limited, showing that place attachment might be associated with attitudes towards fees. Some research suggests that increased place identity will favour a visitor's positive attitude toward fees at a site (Kyle, Absher & Graefe 2003), though place dependence is not related. Particularly, when environmental protection initiatives are involved with the project requiring fee payment, respondents demonstrated an even higher supportive attitude. Likewise, Martin (2000) pointed out that those highly attached are likely to hold more positive attitudes towards paying on-site fees. He reached this conclusion by assessing day users of the Desolation Wilderness in California. The results suggest that day users who are highly attached to the wilderness environment are more likely to contribute a voluntary donation. However, as Martin did not distinguish between place dependence and place identity, whether it is place identity or place attachment affecting this attitude remains unclear.

From intuitive perspectives, there can be two polar viewpoints (Farnum, Hall & Kruger 2005). In line with the above research findings, for the phenomenon that people with higher place attachment are more apt to support fees, reasons for this may include those people's intentions to protect and maintain their favourite sites. However, on the other

hand, there is a possibility of these people having a sense of possessiveness to the attraction site, which may result in their unwillingness to pay fees, as they ''perceive'' the site as their property.

Motivation

Kyle et al. (2004a) and Kyle et al. (2004b) respectively examined the relationship between motivation and place attachment. These are the only journal articles to the researcher's knowledge that have examined this relationship empirically. Other research simultaneously touching on motivation and place attachment are theory based (Zhou & Xu 2009). In Kyle et al.'s (2004b) study, motivations were classified as *learning, autonomy, activity, social, nature,* and *health*. Place attachment was assessed in terms of place dependence, affective attachment, place identity, and social bonding. Their findings illustrated that respondents' motivations to interact with natural settings positively correlated with their attachments to the settings, regardless of respondents' history of association with the place. Different motivations were expected to differentially affect the various place attachment dimensions. Similarly, Kyle et al. (2004a) found sixteen of the nineteen motivation items in their study on hikers to a hiking trail were significantly related to place attachment, although the effect led by place attachment was relatively weak. Because participants were clustered into high attached, medium attached and low attached users, Kyle et al. were able to observe an interesting finding that visitors' motivation types varied for place attachment groups. High attached visitors were likely to score higher than less attached groups on solitude-related items, such as *to be on my own*, *to experience solitude*, and *to be away from the family for a while*, certain social motivation items simultaneously, such as *to meet new people*, *to share my skill and knowledge with others*, and *to show others I can do it*, and self-enrichment items, such as *to learn about the countryside*. On the other hand, there was only one item significantly higher for low attached visitors: *to do something with my family*. Kyle et al. suggested that low attached visitors were more likely to visit a place for social and activity related reasons rather than to visit the place *per se*. Adversely, high attached visitors may visit for the place itself.

2.4.4 Framework of visitors' place attachment at the tourism attraction

This section discusses a number of variables studied in relation to visitors' place attachment. Variables which are potentially associated with visitors' place attachment

are selected and included in Figure 2.1.
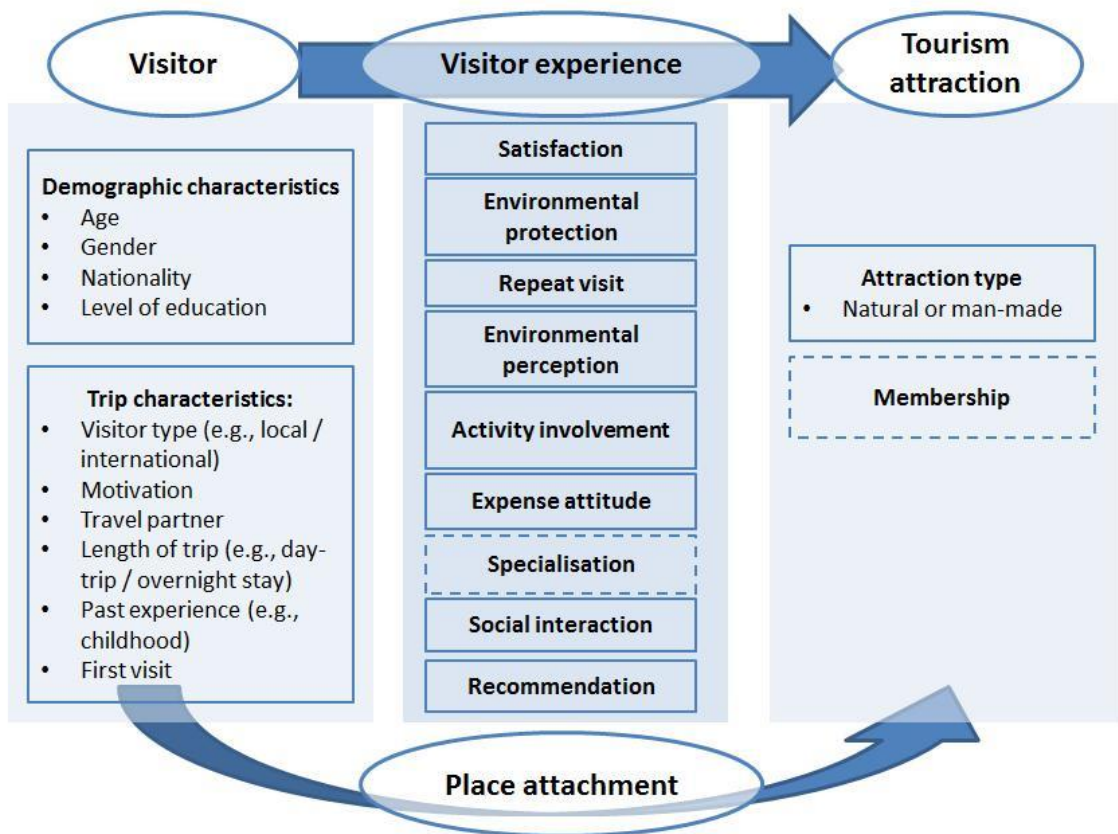
Figure 2.1: The framework of visitors' place attachment towards tourism attractions

Figure 2.1 illustrates a brief overview of the aforementioned variables potentially related to visitors' place attachment experienced at the attraction level. In this figure, place attachment refers to the affective bonds a visitor develops towards an attraction. This attachment can be created prior to the visit through information exposure or through the actual visit experiences. It may also be enhanced by future experiences. Visitors' place attachment is closely linked to the visiting experience at the attraction.

Following the discussion above, variables emerging in the literature have been divided into visitor-related, attraction-related and experience-related groups, with reference to Scannell and Gifford's (2010a) tripartite framework: person, place, and attachment process. The visitor-related variables consist of visitors' demographic characteristics and trip characteristics, which are associated with the profile of the visitors and their trips.

The experience-related variables can reflect visitors' perceptions, attitudes and

behaviours, including satisfaction with the trip, perceived attraction environments, pro-environmental behaviour, repeat visitation intention, activity involvement, expense attitude and motives to recommend the place to others. They can be either behaviours or perceptions of the current visit or behavioural intentions in the future trips.

The attraction-related variables, at this stage of literature, only include the opportunity provided by tourism operators to visitors to join the membership of particular tourism sites, such as a museum membership opportunity. In addition to the membership opportunity, whether the attraction is a natural attraction or man-made attraction is also one aspect of the place setting that the thesis aims to cover.

As it has been indicated that visitors' place attachment can predict future recreational behaviours at a destination level (Smith, Siderelis & Moore 2010), positive associations between visitors' place attachment towards tourism attractions and experience-related factors, especially visitors' behaviours, are expected in the current study. Assuming that visitors do feel attachments to tourism attractions, the adopted division of variables in Figure 2.1 has practical implications to tourism management. The visitor-related variables cannot be controlled by attraction operators but relevant information can be used to segment consumers, whereas the attraction-related variables which can be controlled by the attraction operators could be used to inform attraction management. Last but not least, the experience-related variables have combined place attachment and visitors' behaviours, which can assist attraction operators to understand how visitors' place attachment could possibly explain visitors' behaviours.

2.5 Conclusion

Place attachment research in the context of tourism as an emerging study topic has been discussed. The tourism destination is a unique place setting to examine place attachment, in which both residents' attachment towards their community and visitors' attachment towards a place rather than their usual environments exist. The latter relationship, namely visitors' attachment towards tourism settings, is the focus of the current study.

This relationship (visitor-tourism setting affective bonding) differs from the relationship that develops between people and their permanent residential places in terms of its limited length of interaction time and experience. Moreover, this relationship is more complicated because the elements associated with it are diverse in nature: the tourism

setting in which attachment occurs is diverse in terms of various destinations and attractions; and tourists who feel attached are heterogeneous in terms of various demographic variables, various forms of tourist experience and various tourist behaviours encouraged by various motivations. In the debate regarding whether visitors, who interact with a place for a short time, can really develop strong emotional attachment towards the place, this study holds the viewpoint that in general, visitors develop a weaker but different attachment towards tourism settings than towards their home places. The difference is proposed to be associated with the values and meanings of a place to which people give and thus feel attached.

Meanings of place emerge as an important factor to understand place attachment when there is a lack of research on the mechanism through which place attachment develops. Literature concerned with place meanings that make a place special for visitors has highlighted ''attractiveness'' as one of the most important values of tourism settings. However, tourism attractions, which serve as key to the distinctive attractiveness of a tourism destination, are not taken into researchers' consideration in any empirical studies dealing with visitors' place attachment. Literature regarding visitors' place attachment has been reviewed in detail. Relevant empirical studies primarily undertake their surveys at destination level (assessing respondents' attachment towards tourism destinations) with theoretical models based on destinations as a whole. Associated tourist behaviours are assessed and understood, however, the empirical results are mixed and relevant theory is not provided with strong support to interpret the results effectively.

Furthermore, the gaps in knowledge have been enhanced by a further discussion of the influence of types of place settings on levels of place attachment and place attachment research. Through the discussion, it has been noted that the level of place attachment differs over different place settings (e.g., neighbourhood attachment is weaker than home attachment) and the associated variables of place attachment differ according to destinations with different tourism strengths (e.g., family tradition as a variable has greater influence in destinations popular for family activities).

As a result, there is a need to assess place attachment to tourism settings beyond destinations. Tourism attractions as distinctive features in a destination to attract visitors should be given attention. Considering the variety of tourism attractions, a typology should be adopted to distinguish key meanings or core attractiveness of different types

of attraction with reference to people's place attachment. Since literature shows a potential difference between natural sites and man-made sites (cultural sites), the current study adopts this simple typology of attractions.

Through the literature review, the gaps in understanding visitors' place attachment in relation to tourism attractions are illustrated. This thesis aims to address the gaps in three ways: investigating the levels of visitors' attachment towards tourism attractions in general and for different types of attractions; investigating the differences in visitors' attachment in relation to selected variables and factors; and investigating visitor behavioural intentions associated with place attachment with reference to tourism attractions. Based on the literature presented in this thesis, it aims to contribute to new understandings of place attachment in tourism, in part addressing the identified knowledge gaps in the process.

Chapter 3 Methodology

3.1 Introduction

In the previous chapter, literature relevant to the current study was reviewed and the gaps in knowledge that this study aims to address were identified. This chapter presents the methodological approach and, accordingly, methods used in the current study to address the gaps. The description of the theoretical framework and research questions will frame the chapter. The following sections commence with explanations and justifications on paradigms, research design, data collection methods, the research instrument, sampling techniques, ethical considerations, the data collection process and finally the analytical techniques of this study. Overall the methodology and methods are informed by the framework of this study (refer to Figure 2.1), research design criterion and existing methods adopted in tourism and place attachment studies.

3.2 Theoretical framework and research questions

The current study was undertaken with the purpose of understanding visitors' place attachment perceived at the tourism attraction level and its associations with a number of factors, including visitors' behavioural intentions. The overriding research question is: can visitors' place attachment at the attraction level explain their associated behaviours in tourism attractions? By asking this question, this thesis examines whether the findings of previous place attachment studies in leisure and tourism, highlighting that visitors can feel emotional attachments at the destination level and these can affect visitors' behavioural intentions are also applicable at the attraction level.

As no other studies have touched on this specific topic, the current study is exploratory and inductive in nature, which means that no specific hypotheses have been put forward; instead, a series of related research questions are proposed (Veal 2011). It focuses on providing a descriptive snapshot of the phenomena (Collis & Hussey 2009).to which visitors feel attached in regard to tourism attractions.

Built on the literature review in Chapter Two, the theoretical framework for this study is based on Figure 2.1 in Section 2.4.4. The two arrows depicted in the figure indicate the underlying assumption that when visitors visit tourism attractions, their on-site

experience will trigger place attachment towards the attractions. A number of visitors' behavioural intentions and perceptions, listed under the *visitor experience* column, are likely to be associated with visitors' place attachment. These associations are central to the present study.

In addition, visitors' demographic characteristics and trip patterns as well as the type of tourism attractions are incorporated in the framework, listed under the *visitor* and *tourism attraction* columns respectively. All variables were derived from existing studies in tourism and leisure contexts and organised based on the modified tripartite framework of place attachment (Scannell & Gifford 2010a). Two variables framed with dots, *specialisation* and *membership,* were excluded because they are associated with only certain type of attractions (e.g., specialisation to activity-based sites and membership to museums). They are not applicable to the current study.

Three related questions guided the design of the study and the development of the research instrument:

Q1: To what extent are visitors place attached to tourism attractions?

Q2: Do place attachment levels vary for different types of attractions, different types of visitors, and different trip characteristics?

Q3: What is the association between visitors' place attachment levels and their behavioural intentions in tourism attraction settings?

In relation to Q2, subsequent questions include: (i) does the extent of place attachment vary according to natural and man-made attractions? (ii) does the extent of place attachment vary according to different visitor characteristics such as age, gender, nationality, and level of education? and (iii) does the extent of place attachment vary according to different trip characteristics such as travel partners, past visiting experience, length of the trip, and visitor type (e.g. local / interstate)?

The clarification of a descriptive research question, according to de Vaus (2001), should include specifying the scope of the involved concept, the time and geographical frame of the description, the level of generalisation, the level of abstraction, the aspect of the topic and the unit of analysis (e.g., individual or event). In order to enable a better understanding of the research questions, several of these perspectives are detailed as follows. The assessment of place attachment focuses on individuals' positive emotions. The current study aims to provide a snapshot of these emotions at a certain time and at a

number of selected tourism attractions. It examines whether visitors experience place attachment at the attraction level and whether the associations between perceived visitors' place attachment and intended behaviours exist. Given the limitations of the convenience sample, the study does not aim to make generalisations of the findings beyond the current sample.

3.3 Research approach

3.3.1 Paradigm

The term paradigm was derived from Kuhn's (1970) work of revolutions in science. His use of the term is criticised as inconsistent (Bryman & Bell 2007). Masterman (1970), for example, discerned 21 different interpretations of Kuhn's uses of the term. However, the term paradigm, mostly defined as a cluster of beliefs and dictates that guide scientific actions, is highly influential and appears widely in the social sciences (e.g., Blaikie 1993; Guba 1990; Jennings 2010; Patterson & Williams 2005). This study integrates the research fields of place attachment and tourism and is thus informed by the paradigmatic dialogues conducted within both fields.

There have been a number of authors who have touched on paradigms in tourism research (e.g., Jennings 2010; Ryan 1997; Veal 2011). Each identifies several other terms in relation to a paradigm, such as perspective, ontology, epistemology and methodology (e.g., Veal 2011). Jennings (2009) declared that it is now important to accept the diversity of paradigmatic approaches in tourism research and to shift efforts away from paradigmatic debates to critically engage in and reflect on alternative paradigms. Therefore, rather than seeking differences and similarities among different authors' understandings of theoretical approaches, the current study directly adopts Jennings's (2009) suite and frames of paradigms. Compared to other authors writing on the topic, her discussion (Jennings 2005, 2009, 2010) most systematically situates relevant terms within the broader discourse of a paradigm, including ontology, epistemology, axiology, methodology and methods.

Table 3.1: Overview of paradigms in tourism research

Related paradigms	Ontology	Epistemology	Methodology	Axiology
Positivism	Universal truths and Laws	Objective	Quantitative	knowledge is propositional and of intrinsic value
Post-positivism	Fallible truths produced by social and historical circumstances	Objective albeit possibility of researcher bias is acknowledged	Primarily quantitative; may use some qualitative	knowledge is propositional and of intrinsic value
Critical realism	Fallible truths produced by social and historical circumstances	Objective albeit possibility of researcher bias is acknowledged	Primarily quantitative; may use some qualitative	knowledge is propositional and of intrinsic value and a potential means to social emancipation
Pragmatism	'What works' in the empirical world	Objective and subjective in order to solve problem	Mixed methods	knowledge is propositional and of intrinsic value and a potential means to social emancipation
Chaos and complexity theory	World is unstable, non-linear and dynamic self-organising	Objective	Quantitative and qualitative if used metaphorically	knowledge is propositional and of intrinsic value
Interpretive social sciences	Multiple realities	Inter-subjective	Qualitative	knowledge is propositional and transactional and a way to achieve social emancipation
Participatory	Collective participative co-construction of realities	Situated and reflexive (inter) subjective-objective	Qualitative, quantitative, and mixed methods	knowledge is experiential, practical and transformative, some instances of transactional knowledge

Note. Sourced from Jennings 2009, pp.674-675, 2010, pp.60-61. Paradigms not included: Feminist perspectives, Critical theory, Post-modernism.

Jennings (2010) adopted Guba's interpretation of a paradigm, which refers to 'a basic set of beliefs that guide the action, whether of the everyday garden variety or action taken in connection with a disciplined inquiry' (Guba 1990, p. 17). In addition, based on Guba (1990) and Heron and Reason (1997), Jennings has clarified the relationships between paradigm and the aforementioned series of terms: (i) a paradigm is the overlying view; and (ii) each term describes one aspect of a paradigm: ontology stands for how the real word is perceived; epistemology stands for the relationship between the research; axiology stands for how and what type of knowledge is valued as well as what its influence is; methodology refers to the complementary set of guidelines related to the way of knowledge production; and methods refer to specific tools of data collection and analysis. Table 3.1 provides an overview of the suite of paradigms that could inform the current study and, by association, its terms.

As a place-related research theme, place attachment studies are composed of multiple research traditions based on very different, often incompatible epistemological foundations and ontological assumptions (Patterson & Williams 2005), such as phenomenological and humanistic approaches, psychometrics, and social constructivism (Morgan 2010). Like the situation of paradigms that inform tourism, Patterson and Williams (2005) similarly suggested that researchers in place attachment should be tolerant and open to alternative approaches.

Post-positivism was chosen as the overlying paradigm informing this study and guiding the follow-up methodology and methods selection, because it provides the most suitable approach to answer the research questions proposed by this study. Post-positivism supports the existence of universal truths but also holds the position that the involvement of the researcher in understanding the knowledge will cause fallible information (Jennings 2010), so it is always important to acknowledge researcher bias. This thesis investigated people's emotional attachment to tourism attractions. By adopting post-positivism, the current study recognised that people's place attachment varies according to individuals, locations and time, but there are common rules which apply to grouped individuals under given conditions. In order to find out the common rules, both quantitative and qualitative approaches can be used and possible bias should be acknowledged.

3.3.2 Research design: cross-sectional

Whilst a paradigm provides an overlying set of beliefs which guide research thought, a research design provides a design of research methods and informs the collection and analysis of data (de Vaus 2001). Its function is to 'ensure that the evidence obtained enables us to answer the initial question as unambiguously as possible…in a convincing way' (de Vaus 2001, p. 9). Common research designs include experimental design, cross-sectional design, longitudinal design, case study design and comparative design (Bryman & Bell 2007). Among them, the current study employed the cross-sectional design, which is frequently conducted in social science research when there are time constraints or limited resources.

In cross-sectional design research, a relatively large amount of data is collected once over a short period of time. For instance, a survey may obtain responses to a number of variables simultaneously. This is unlike the process employed in the other designs, such as experimental designs which involve pre-test and post-test phases and longitudinal designs in which data is collected at multiple points over a long period of time in order to map the change (Bryman & Bell 2007).

Due to its data collection pattern, the cross-sectional design relies on existing differences and can only entitle the examination of associations between variables, rather than denoting causal relationships as can be achieved by a longitudinal design. Thus they provide a snapshot of a research phenomenon and do not explain why correlations exist; only that they do or do not exist. The current study assesses the associations and differences between place attachment and visitors' behavioural intentions. Examinations of causal relationships amongst these variables are beyond the research scope.

3.3.3 Methodology: quantitative vs. qualitative

The choice of an appropriate methodology was vital for the success of a study because the methodology, as noted in the last section, is related to how knowledge is produced in terms of how the data is collected and analysed (Blaikie 1993). This study explores visitors' place attachment towards tourism attractions. It aims to assess whether the descriptions of visitors' place attachment assessed at the destination level, derived from existing studies in leisure and tourism, are also applicable in the attraction context. Thus, the current study, rather than using qualitative interviews to explore new

dimensions of place attachment and associated behaviours, adopted a quantitative methodology.

Quantitative research is governed by paradigms such as positivism and post-positivism. This methodology deals with numerical data and emphasises quantification in the collection and analysis of data (Bryman & Bell 2007). In order to draw conclusions on numerical data, it often gathers a relatively large data size through surveys, observation, or administrative sources (e.g., ticket sales) (Veal 2011). In addition, it uses statistical analysis methods, such as chi-square tests, t-tests, analysis of variance, correlation or regression analyses (Jennings 2010). Sometimes, the information in quantitative form may be qualitative in nature (Veal 2011). This is the case of the current study, in which some of the variables studied are qualitative by nature. For example, place attachment questions asked using Likert scales measure respondents' perceived emotions towards the attractions, which are qualitative in nature.

Bearing in mind the principle raised at the beginning of this section, the methodology for the current study, in terms of quantitative, qualitative or mixed methods, was carefully designed according to the research objectives, the adopted paradigm, existing studies on place attachment, as well as the advantages and disadvantages associated with each approach. A quantitative approach was eventually determined considering the following issues:

Firstly, the paradigm adopted in this study is post-positivism, which governs a quantitative approach (Jennings 2010). Secondly, a review of literature showed that the quantitative approach was dominant in the research field of place attachment in the tourism context (e.g., (Gross & Brown 2006, 2008; Hou, Lin & Morais 2005; Hwang, Lee & Chen 2005; Tsai 2011; Yuksel, Yuksel & Bilim 2010) and in related leisure and recreation contexts (Kyle, Absher & Graefe 2003; Kyle et al. 2003). Thirdly, the related questions asked in the present study required an examination of differences between subjects (Q2) or correlations between variables (Q3). The quantitative approach was suitable to answer such research questions given its statistical focus (Veal 2005).

3.4 Data collection method

Both secondary data and primary data were used to underpin this study. Secondary data

sourced from the Internet (e.g., Tourism Victoria[14]) was first reviewed to assist in selecting the study location. Primary data regarding visitors' place attachment, demographic characteristics, trip characteristics and their experience and behavioural intentions were then collected, as there was no precise secondary data which could fully support and address the objectives of the current study.

The current study employed surveys to collect primary data. As the most common data collection method, surveys provide a quick, inexpensive, efficient and accurate means of assessing information about a population, in which information is gathered through oral or written questioning, known as interviewing or questionnaires respectively (Sarantakos 2005). The majority of existing place attachment studies have employed surveys to collect primary data (Gross & Brown 2006, 2008; Kyle, Graefe & Manning 2005; Williams & Roggenbuck 1989). Their research designs, data collection and analysis techniques have informed the current study.

In addition, given the framework of this study (refer to Figure 2.1), it can be seen that, although some of the visitors' characteristics and behaviours can be observed, like gender, group size profile or activity involvement, most variables proposed in the current study are latent, such as satisfaction and visitors' intentions to revisit the attractions. Thus the observation method is not applicable because 'essentially, it is almost impossible to determine attitudes, satisfaction levels and opinions without asking some questions to triangulate the data. For example, just because some is smiling does not mean that person is happy with the current experience' (Jennings 2009, p. 255).

There are a range of typical types of surveys in the tourism context: household survey, street survey, mall intercept personal interview, telephone interview, postal/mail survey, E-survey/ internet survey, captive group survey, on-site or user survey(Sarantakos 2005). Each type has its own advantages and disadvantages and its appropriate usage situation. The mail survey is commonly adopted in place attachment studies (e.g., Kyle, Graefe & Manning 2005). However, given that the current study focused on visitors visiting tourism attractions, in which potential respondents include international tourists who are travelling away from home country, a mail survey administration was considered unsuitable for current purposes.

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[14] Tourism Victoria is a Victorian Government's lead tourism agency that aims to promote the state and attract more visitors and create more economic opportunities for tourism industry partners in Victoria, Australian.

The other frequently adopted survey method in place attachment research, namely the on-site survey (e.g., Gross & Brown 2006), was deemed appropriate for this study. The on-site survey is one of the most common types of survey in leisure and tourism contexts (Jennings 2010). From its name, it obviously refers to the method whereby questionnaires are distributed to respondents in the recreational or tourism settings. The advantages of on-site surveys are that they enable a pure visitor sample, take relatively short time to complete, and avoid mistakes in recall (Veal 2011). Since this method can be conducted using interviewer-completion or respondent-completion, its response rates and researcher-bias vary accordingly. Generally the former method is preferable as the latter can lead to a poor standard of questionnaire completion and also low response rates (Veal 2005). However, these problems can be reduced with due attention to questionnaire design and careful supervision of respondents during questionnaire completion.

For the current study, it was also necessary to consider whether to conduct the on-site survey at a Visitor Information Centre (VIC) or inside the specific attraction premises. The suggestion provided by Gross and Brown (2006) led to the decision to choose the latter option to collect data for this study. In Gross and Brown's (2006) study examining the combination of place attachment and involvement in tourism destinations in South Australia, they conducted surveys at five regional VICs and reported a mean level of place attachment of 2.79 on a 1~5 Likert Scale, which means that most respondents were neutral and were affectively attached to the visited regions. Gross and Brown explained that the result may be dampened by locating the surveys at VICs, because respondents tended to be at the early stages of visitation and did not have sufficient time to interact with the destination and become attached to it. They thus suggested collecting data from other types of location. Following their suggestion, it was determined to do the on-site survey at the attraction premises, which can additionally make it easier for visitors to identify the attraction studied and refer them directly to their current experience at the attraction when completing the questionnaire.

3.5 Research instrument

In this study, a questionnaire was developed to assess different aspects of trip characteristics and visitors' place attachment, demographic characteristics and behavioural intentions. It consisted of interval Likert scales and nominal choices, and

was divided into three key parts: a measurement of place attachment, behavioural intention scales and ancillary questions.

Likert scales are normally used to ask respondents to indicate their agreement or disagreement with a proposition using a standard response set (de Vaus 2002). The responses can be quantified with scores that enable the strength of agreement with different statements to be compared and for comparison between the responses of different groups of people (Veal 2005). Reliability, validity and sensitivity are three key criteria for evaluating Likert scale measurements, respectively indicating a measure's internal consistency and accuracy (Zikmund et al. 2010). Scaled items in the questionnaire were cautiously selected and modified from existing scales in place attachment studies. The basis upon which the scales and question items were adopted is introduced below.

3.5.1 Place attachment scale

The debates on the dimensionality of the concept place attachment still exist. In the studies extending place attachment into the tourism context, however, the use of two-dimensional place attachment scales (place identity and place dependence) is influential (Hwang, Lee & Chen 2005; Kaltenborn & Williams 2002; Williams et al. 1992).

Williams and Roggenbuck (1989) initiated the study of visitor place attachment in the context of wilderness settings. In order to assess the levels of both dimensions of place attachment, place identity and place dependence, they reviewed the relevant literature and generated a series of questionnaire items. These prospective items were then reviewed, augmented, and edited by three other researchers to develop a 27-item place attachment scale. The items were further evaluated by 129 respondents and analysed by the authors, which resulted in 15 place attachment questions rated on a five-point Likert scale ranging from 'strongly disagree' to 'strongly agree'.

This two-dimensional place attachment scale has been subsequently replicated in several recreational and leisure studies (Bricker & Kerstetter 2000; Moore, Roger L. & Graefe 1994; Williams et al. 1992). Kyle et al. (2003) further reduced the questionnaire items to eight. Doubts have been raised about the validity of the tool (Jorgensen & Stedman 2001). In order to examine whether this instrument was consistent and reliable in recreational settings, Kyle et al. (2004a, 2005) tested the validity and reliability of their 8-item measurement purposively. The results support the 8-item place attachment

scale as a reliable instrument to assess place attachment while the two dimensions, place identity and place dependence, are interdependent variables. The current research thus adopted this place attachment scale to assess visitors' place attachment experienced at the attraction level.

In the process of refining the questionnaire instrument for current purposes, five items from the place attachment scale (Kyle et al. 2005) were adapted and modified to measure visitors' place attachment at the attraction level. Firstly, as the questionnaire would be distributed to not only domestic visitors but also international visitors, all items were reviewed and modified to make sure they would be understood easily by international visitors to whom English is the second language. As a result a reverse coded item of the 8–item scale was removed to avoid confusion (e.g., *I feel no commitment to this trail*). Additionally, the original place attachment scale was designed for a hiking trail whilst not all tourism attractions support hiking; therefore two items exclusively describing hiking were removed (e.g., *Hiking here is more important than hiking any other place*). Lastly, because the current study took both physical and social environments of an attraction into consideration, one item was further broken into two to estimate respectively visitors' connection to the attraction and to the people at the attraction.

The 6 statements on face value appeared highly relevant to visitors' experience and tourist attractions and their face validity was checked by supervisors and colleagues of the researcher. The resulting statements were measured by means of a 5-point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree". As an example of place dependence, the statement Q10e is: *I get more satisfaction out of visiting this attraction than from visiting any other attraction*. Likewise, place identity, for instance, was demonstrated by the statement Q10a *This attraction means a lot to me*. Before implementation, the items were reworded slightly to refer to the tourism attraction context of this study. The list of six items was finalised and presented in Section A in the questionnaire (See Appendix A).

3.5.2 Visitor behavioural intention scale

Intentions are studied in the current research rather than actual behaviours, as it is the encouragement of future behaviours that are of primary interest. Additionally, whilst assessing behaviours directly is difficult and costly, behavioural intentions have proven

to be effective indicators of future behaviours (Ajzen 1988; Fishbein et al. 2007).

Research dealing with attitudes, intentions and behaviours are often based on the underlying assumption that people's intentions and feelings can stand for their behaviours and future actions. This is supported by the theory of planned behaviour, proposed by Ajzen (1988), as an extension of the theory of reasoned action (Fishbein & Ajzen 1975), to describe the relationship between behavioural intentions and actual behaviours. The theory posits that intentions are the best predictor of one's actual behaviours and are highly correlated to one's attitudes towards performing the behaviours. As a result, in the present study, the assessment of people's behavioural intentions were used as a proxy measure to predict people's actual behaviours now and in the future.

Behavioural intentions can be measured using direct verbal statements in terms of ranking, rating, sorting or making choices (Zikmund et al. 2010). Previous studies (Kyle, Absher & Graefe 2003; Kyle et al. 2003, 2004a, b; Kyle, Mowen & Tarrant 2004) informed the current study in terms of item development for assessing behavioural intentions relevant to place attachment. These items were selected, adapted and modified according to the tourism context of this study. Their face validity was checked after the item wording was modified.

Some behavioural intentions were measured through a composite scale. Regarding environmental protection intention, four statements were used to present four different aspects of this attitudinal domain according to Scannell and Gifford's model (2010b). In regard to the evaluation of attraction conditions, Kyle et al.'s (2004a) scale was adopted. Yet, instead of keeping all items in the scale, only the most representative item from each dimension was chosen to reduce the length of the questionnaire. For instance, item *trail too developed* was chosen to represent *trail development* with reference to the attraction environment. The item was then reworded to *this attraction is too overdeveloped*. Satisfaction was measured using a three-item scale following Yuksel et al.'s (2010) study: *I am happy about my decision to stay in Didim*, *I believe I did the right thing when I chose to make my holiday in Didim*, and *Overall, I am satisfied with decision to make my holiday in Didim*. The wording was slightly changed to remove "Didim" from the items. Similarly, the items to assess visitors' intention to participate in the attraction activities and events were chosen and modified from Kyle et al.'s (2007) scale. In addition, four items were created by the current study to assess visitors'

willingness to socially interact with other people, such as their travelling partners, other visitors, local residents and staff working at the attractions. One example is: *I would like to talk to other visitors*.

Other behavioural intentions were measured using a single item, such as recommendation intention, *I will recommend this attraction to others*, re-visit intention, *I will visit this attraction again in the future*, and expenditure attitude, *I don't mind spending more money at the attraction if necessary*. Those items were commonly used questions in leisure and tourism studies; their face validity was also checked. A balanced five-point numerical scale was used to measure all resulting items where 1 presents "strongly disagree", 2 presents "agree", 3 presents "neutral", 4 presents "agree" and 5 represents "strongly agree", to be consistent with place attachment items and guarantee the scale's sensitivity. The behavioural intention scale included 16 items and is presented in Section B in the questionnaire (See Appendix A).

3.5.3   Ancillary questions

According to the literature presented in Section 2.4, there are a range of variables that may impact on visitors' place attachment perceived in the tourism settings, classified roughly into visitors' demographic characteristics and trip characteristics. They were incorporated in the theoretical framework of the current study under *visitor* column. It is important, therefore, to seek information on these variables which were thought to influence place attachment levels, to address the second related question.

Some questions used to measure these variables were created by the researcher, such as Q9 regarding travel partner: *did you visit this attraction today with anyone else?* Some were adaptations of previously developed studies, similar to behavioural intention scale items, such as Q14 assessing environmental perceptions (Kyle et al. 2004a). For those standardised questions asking about demographic information, they not only reveal the profile of participants visiting the selected attractions but also can be used to group different visitors and identify the associations between different groups and place attachment levels. The ancillary questions were placed in Section A and Section C of the questionnaire (See Appendix A).

3.5.4   Question sequence

The order of questions in a questionnaire serves several important functions. It can

promote respondents' interest and cooperation by starting the questionnaire with interesting questions, or build their confidence by starting with simple questions (Kinnear & Gray 2010). It may also cause order bias to affect the accuracy of their responses. The basic rules which the research instrument followed to establish a proper order of questions included: (i) asking for personal information at the end of the questionnaire rather than at the beginning of the survey; (ii) asking general questions before specific questions; and (iii) including a filter question to minimise biased responses when the questions were inapplicable to respondents. Furthermore, as open-ended response questions are valuable at the beginning of an interview, as well as good last questions for a fixed-alternative questionnaire, when a researcher can ask the respondent to expand in a manner that provides greater richness to the data (Zikmund et al. 2010), two open-ended questions were used at the end of the questionnaire.

The complete questionnaire includes a brief introduction at the beginning, *thank you* sentences at the end, and a main body of Section A, B, C questions. Section A consists of the place attachment scale items and the majority of the ancillary questions. Section B contains all 21 items in the behavioural intention scale, examining respondent's behavioural intentions. Section C includes the remaining ancillary questions. Table 3.2 shows the related research questions and subsequent questionnaire design, aimed at addressing the objectives of the research.

Table 3.2: Related research questions and associated research design

Related questions	Questionnaire design	Questions	Analytic techniques
Q1: To what extent are visitors place attached to tourism attractions?			
To what extent are visitors place attached to tourism attractions?	Data collected from Section A Q10 will be analysed.	Q10. This attraction means a lot to me. / I feel very strongly attached to the attraction. / I have a special connection to the attraction. / I have a special connection to the people who visit here. / I get more satisfaction out of visiting this attraction than from visiting any other attraction. / I wouldn't substitute any other attraction for the type of experience I have here.	Descriptive analysis Factor analysis

Q2: Do place attachment levels vary for different types of attractions, different types of visitors, and different trip characteristics?			
Does the extent of place attachment vary according to natural and man-made attractions?	Attractions have been classified into natural versus man-made attractions. Data collected from Section A Q10 will be analysed and compared between classifications.	Q10. This attraction means a lot to me./ I feel very strongly attached to the attraction./ I have a special connection to the attraction./ I have a special connection to the people who visit here./ I get more satisfaction out of visiting this attraction than from visiting any other attraction./ I wouldn't substitute any other attraction for the type of experience I have here.	Descriptive analysis Independent samples t-tests
Does the extent of place attachment vary according to different visitor characteristics such as age, gender, nationality, and level of education?	Section A of questionnaire has gathered information on visitors' past experience (Q2~Q7). Questions in Section C examine visitors' demographic variables (Q16~18 & Q20). The data will be analysed together with the data collected from Q10.	Q2. Is it your first visit to this attraction? Q3. How satisfied were you with your last visit to this attraction? Q4. Have you heard about this attraction before Q5. Has this attraction made you think of any of your childhood experiences? Q6. Has this attraction made you recall any of your previous trips to this attraction? Q7. Has this attraction made you recall any of your previous trips to a similar attraction? Q16. What is your gender? Q17. What is your age group? Q18. Which statement best describes your highest level of education? Q20. What is your nationality? See Q10 above.	Descriptive analysis Independent samples t-tests Chi-square analysis
Does the extent of place attachment vary according to	Section A of questionnaire has gathered information on trip	Q1. Which of the following options best describes your trip to the attraction? Q11. Did you visit this attraction today	Descriptive analysis Independent

different trip characteristics such as travel partners, past visiting experience, length of the trip, and visitor type (e.g. local / interstate)?	characteristics, such as length of the trip (Q1) and travel partners (Q11). Questions in Section C examine visitor types (Q19) and visitor motivations (Q21). The data will be analysed together with the data collected from Q10.	with anyone else? Q19. Visitor type: local visitor/ intra-state visitor/ interstate visitor/ international visitor Q21. What was the main reason for you to visit this attraction today? See Q10 above.	samples t-tests Chi-square analysis
Q3: What is the association between visitors' place attachment levels and their behavioural intentions in tourism attraction settings?			
Is place attachment associated with social interactions?	Q11, Q12 and Q13 in Section A gather visitors' actual social interactions with other visitors, staff working at the attractions and local people during the trip. Q15 (j~m) examines visitors' intentions to socially interact with other visitors, staff working at the premises and local residents.	Q12.Have you talked to other visitors whilst at the attraction? / Did you talk to staff working at the attraction? / Did you talk to local residents in the community? Q13. Thinking about your conversation to others at this attraction, please indicate to what extent you agree or disagree with each of the following statements: I like talking to/ It was enjoyable to talk to other visitors/staff working at this attraction/ local residents. Q15. I prefer to visit this attraction with people who are important to me. / I would like to talk to other visitors. / I would like to talk to staff working at the attraction. / I would like to talk to the local residents.	Descriptive analysis Factor analysis Independent samples t-tests Correlation
Is place attachment associated with	Q15 (a~c) examines visitor	Q15. I am happy about my decision to visit this attraction. / I believe I did the right thing when I chose to visit this	Descriptive analysis

visitor satisfaction?	satisfaction.	attraction. / Overall, I am satisfied with my decision to spend my time at this attraction.	Factor analysis Independent samples t-tests Correlation
Is place attachment associated with activity involvement?	Q8 and Q9 in Section A gather visitors' actual participations in the events and activities at the attractions. Q15 (g~i) examine visitors' activity involvement intentions.	Q8. Did you participate in any extra activities or events held at the attraction besides sightseeing? Q9. Please list your participation in activities or events, and indicate how satisfied you were with each participation and overall experience? Q15. I feel pleased when I participate in the events or activities (e.g. feeding animals) at this attraction. / Participating in these events/activities (e.g. feeding animals) interests me. / I prefer there to be more events or activities at the attraction.	Descriptive analysis Factor analysis Independent samples t-tests Correlation
Is place attachment associated with pro-environment behaviours?	Q15 (n~r) examines visitors' intentions to perform pro-environmental actions.	Q15. I tried to learn what I can do to help solve environmental issues at the attraction. / I talked with others about environmental issues at the attraction. / I tried to convince friends/relatives/other visitors to act responsibly at the attraction. / I sorted my rubbish to separate non-recyclable from recyclable material at the attraction. / I conserved water as much as I could at the attraction.	Descriptive analysis Factor analysis Independent samples t-tests Correlation
Is place attachment associated with visitors' environmental perceptions?	Q14 in Section A gathers visitors' perceived images of the attractions under study. Q15 (s~u) asks visitors' overall evaluations of the attractions'	Q14. Thinking about your perception of the environment at the attraction, please indicate to what extent you agree or disagree with each of the following statements: The attraction is too overdeveloped. / This attraction may cause damage to the environment. / I have seen litter at the attraction. / Too many spaces are overcrowded. / Some visitors	Descriptive analysis Factor analysis Independent samples t-tests Correlation

	physical and social environments.	were inconsiderate. Q15. The facilities at the attraction are satisfactory. / I feel people at the attraction are friendly. / Overall, the attraction is a pleasant place.	
Is place attachment associated with visitors' intention to re-visit the attraction?	Q15 (d) will be analysed together with Q10.	Q15. I will visit this attraction again in the future	Descriptive analysis Factor analysis Independent samples t-tests Correlation
Is place attachment associated with visitors' intention to recommend the attraction to other people?	Q15 (e) will be analysed together with Q10.	Q15. I will recommend this attraction to others.	Descriptive analysis Factor analysis Independent samples t-tests Correlation
Is place attachment associated with visitors' attitude towards future expenditure?	Q15 (f) will answer this question together with Q10.	Q15. I don't mind spending more money at the attraction if necessary.	Descriptive analysis Factor analysis Independent samples t-tests Correlation

Furthermore, the design and development of the questionnaire items followed the recommendation by Zikmund et al. (2010) in terms of question wording and layout. It is recommended to use simple and conversational language to construct questions, avoiding leading sentences, expression ambiguity, double-barrelled items and making assumptions on behalf of the respondent (Zikmund et al. 2010). A copy of the instrument can be found in the Appendix A.

3.6   Location and Sampling

3.6.1   Location of the study

The research was undertaken in the State of Victoria, Australia, which is the location of the researcher. Victoria is situated on Australia's east coast and is wealthy in tourism resources (Figure 3.1), such as the well-known Great Ocean Road and Phillip Island.

Whilst the size of Victoria ranks it as the second smallest state in Australia, its tourism industry outperforms the national average. Despite the heavy influence from the global financial crisis and consequent repercussions in 2008, Victoria experienced annually growth in both domestic and international visitors' expenditure (Tourism Victoria 2012).

Figure 3.1: Tourist map of Victoria (Goway 2013)

With Melbourne as the capital city, currently 11 product regions have been identified in Victoria and strategically developed in respect of the special emphases and demands of various visitors, to serve as the basis to achieve the overall campaign – 'You will love every piece of Victoria' (Tourism Victoria 2013). The official website for tourism information, Visitvictoria.com, highlights features of each district. For example, Ballarat is a popular region in the Goldfields area and is promoted for its gold rush history (Visitvictoria n.d.).

3.6.2 Attraction selection

There were three criteria set to select attractions in Victoria where the respondents would be approached. Firstly, the attractions selected should be comparatively popular for both domestic and international visitors. This assessment had been made by integrating information from public tourism websites and agencies, e.g., Onlymelbourne.com has a list of Victoria's top 20 attractions on its website. Secondly, because differentiating levels of visitors' place attachments between different attraction types, namely between natural attractions and man-made attractions, is a key research question of the current study, it was necessary to ensure an equal number of attractions in each classification. Thirdly, the researcher approached selected attraction operators to gain their permission to undertake the survey on-site or in the proximity of the tourist sites. The selection of attractions was finalised after obtaining the approvals.

The process of selection has been included in a chart as Appendix B. Four attractions were approached. Among them two attractions gave permission to conduct the survey on their premises. One was Phillip Island Nature Park in Phillip Island, and the other was Sovereign Hill in Ballarat.

Phillip Island is one of the most well-known destinations for both natural and man-made attractions. Its promoted strength is 'popular destination for families, lovers of water sports and wildlife' (Visitvictoria n.d.). However, it is much more popular for its natural attractions, in particular the Penguin Parade, which is the flagship attraction and listed as a top natural attraction on almost all public websites (*cf.* Appendix B). Phillip Island Nature Park is in charge of the four main sites at Phillip Island: the Nobbies, the Penguin Parade, the Koalas Conservation Centre and the Churchill Island Heritage Farm. Except for the developments on Churchill Island, the other three sites are all natural attractions providing visitors with opportunities to get close to the nature and wildlife. There are built facilities at Phillip Island Natural Park, for example, the up-close viewing platform at the Penguin Parade, the tree top boardwalks at the Koalas Conservation Centre, and the interactive "seal spy" cameras at the Nobbies, yet those features are not the primary attractions for visitors. The natural elements of this attraction including wildlife and coastal scenery are paramount; therefore Phillip Island Natural Park was considered as a natural attraction for the purpose of the current study.
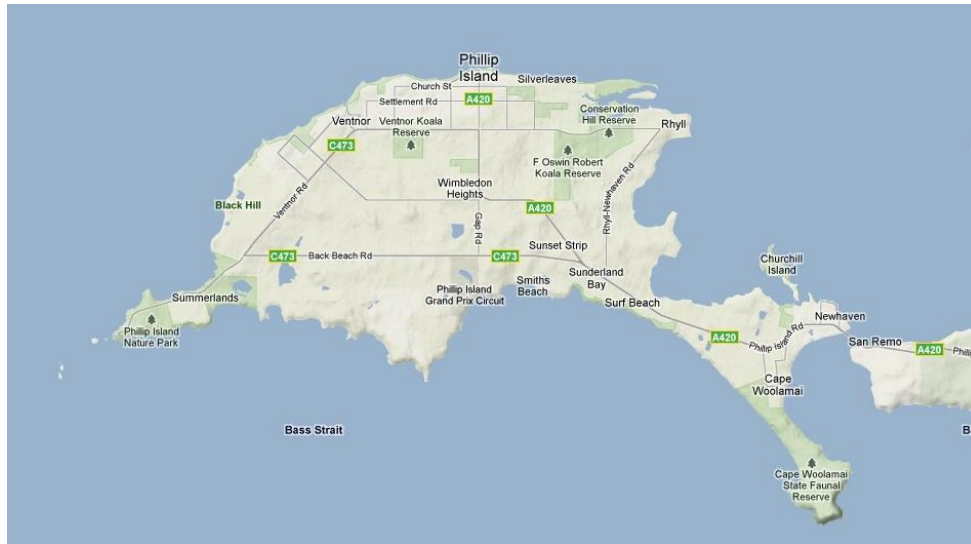
Figure 3.2: Phillip Island map, Victoria (Google Maps)

Sovereign Hill is located in Ballarat, which with Bendigo are well-known spectacular historic gold rush towns in Goldfields area. Being Victoria's largest inland city, Ballarat is famous as a site of the world's largest deposit of alluvial gold, and Sovereign Hill is one of its most popular attractions (Visitvictoria n.d.). Sovereign Hill is an outdoor museum presenting the story of Australia's gold rush history, focusing on the impact of the great 19th century gold discoveries on the growth of Ballarat. This was a small pastoral settlement when gold was discovered in 1851, but it developed into a provincial city built on the wealth derived from its gold by 1861 (Visitvictoria n.d.). Since opening in 1970, Sovereign Hill has become an Australian tourism icon as a living museum with a strong emphasis on working machinery and exhibits, costumed interpreters and visitor participation. Sovereign Hill is a typical man-made attraction with a wholly built environment of houses and gold mine related entertainment facilities, as well as various activities and exhibitions such as coach riding and gold digging. Therefore Sovereign Hill was considered an appropriate man-made attraction for the purpose of this study.

Figure 3.3: Sovereign Hill map, Victoria (Google Maps)

For the reasons given in the preceding paragraphs, Phillip Island Nature Park and Sovereign Hill were selected and approved as the attractions for data collection. In the following chapters, the terms *natural attraction* and *man-made attraction* are used respectively to refer to the two attractions.

3.6.3 Sampling of visitors

Sampling implies the way data are collected, analysed and interpreted, which is important in survey research, given that it is rarely possible to gather data from the whole population (Veal 2011). There are two classificatory systems of sampling: one is probability sampling; the other is non-probability sampling. As one of the non-probability sampling techniques, convenience sampling was used in this study. This is because the population of the visitors visiting the studied attractions was unknown. Convenience sampling refers to the sampling procedure of obtaining those people or units that are most conveniently available (Jennings 2010). This sampling technique seeks to gather a large number of complete questionnaires quickly and economically; however, it has a limitation that projecting the research results based on a convenience sample beyond the specific sample is inappropriate (Zikmund et al. 2010). Given the inherent weaknesses of convenience sampling approach, it was important to implement strategies to minimise visitor bias (e.g., scheduling the data collection dates on both weekdays and weekends).

The sample sizes of previous studies using place attachment scales have varied from between 129 (Williams et al. 1989) to 2847 (Kyle et al. 2004a) or above. Sample sizes are associated with the types of survey that researchers conduct, the overall size of the targeted population, the nature of the population and accessibility to it (Hair 2007). Given the overall size of the population that the current study approached was unknown and convenience sampling was used, the researcher determined when sufficient enough participants had been sampled.

3.7 Ethical considerations

As the primary data collection method involved human respondents, approval was sought from Victoria University's Human Research Ethics Committee (VUHREC) prior to the start of the data collection phase (See Appendix E).

There were no expected risks for visitors participating, given that the questions asked concerned only their perceptions and intentions in relation to their trip to a tourism attraction. Moreover, the researcher was also extremely careful to avoid causing any physical, psychological, legal or other forms of harm in the practice of collecting data following Jennings' (2010) suggestions, for example: being aware of the positioning of the on-site survey (e.g., shaded area); reading the questions for elderly respondents who had trouble in reading; and suggesting the required level of English language ability for completion by non-English speaking visitors. Furthermore, the questionnaire was anonymous in that it did not ask for any identifying information such as name, address and contact details.

Cooperation with the managements of the attractions where the data was sought was also obtained prior to conducting the survey on-site. Written approval was shown to VUHREC as part of the ethics approval process.

3.8 Data collection process

The current study conducted on-site surveys at Phillip Island Nature Park and Sovereign Hill. Its sample frame consisted of adult tourists visiting either of the two attractions during the data collection period (March 2011).

Visitors were approached personally by the researcher at the two attractions. Data was collected via printed questionnaires distributed to these visitors. A mix of questionnaire administration techniques were used including both interviewer-complete

administration and self-administration. A brief introduction was provided at the beginning of each approach to ensure that the respondents were visitors and had already visited most parts of the attractions, and that they were responding to the questionnaire in reference to their current experience at the studied attraction. In line with the ethical considerations approved by the Ethics Committee at Victoria University, an information sheet (See Appendix C) was provided to each participant to inform them about the purpose and design of the study, the time (10~15 minutes) which the questionnaire would likely take to complete, the benefits and the risks of participating, the use of the information provided, and who to contact if the respondents had any queries. The visitors' agreement to do the survey was taken as their consent to participate in the study. It was also emphasised that participation in the study was entirely voluntary and respondents could withdraw from the survey at any time.

With guidance from the managers of Phillip Island Nature Parks, the survey in Phillip Island was conducted from 3pm onwards at the Koala Conservation Centre and the Nobbies, and between 7pm to 9pm at the Penguin parade. At the suggestion of the managers at Sovereign Hill to maximise the possible number of responses, the survey was undertaken from 11am onwards till late afternoon at that site. In order to avoid sampling bias, data collection was conducted on weekdays and weekends. The data were collected over a two-week period at the two attractions.

Approximately 550 visitors at both sites were approached. Of them 435 visitors were willing to complete the survey and more than 300 respondents provided answers to all items in the questionnaire.

3.9   Data analysis

Data analysis is the last step in the research methodology and provides support for the research discussion and the drawing of conclusions, to address the research questions and thesis aims (Zikmund et al. 2010). All data were manually entered by the researcher and analysed using SPSS v.18. Frequencies were first calculated for each variable. Additionally, descriptive statistical analysis was used to describe distributions of interval variables and scales. Exploratory factor analysis was then applied to scaled questions in the questionnaire to examine their inter-correlations. In order to answer the research questions, statistical techniques to compare groups were adopted, such as

independent samples t-tests. Then, the statistical techniques to explore relationships between variables were applied, such as correlations and chi-square testing.

The inspection for missing data and the consideration of how to deal with missing values are important procedures before undertaking statistical analyses (Pallant 2011). This study excluded cases only if they were missing the data required for the specific analysis but included them in any of the analyses for which they had the necessary information. This treatment of missing data, always shown in the software as 'exclude cases pairwise', has been recommended by several authors (Coakes & Ong 2011; Pallant 2011).

Factor analysis is a statistical technique applied to a set of variables when researchers are interested in discovering the underlying processes that have created the correlations among variables, or intend to reduce a large number of observed variables to a smaller number of factors (Pallant 2011). For this study, the purpose of performing factor analysis was to define the underlying factors of the scales adopted in the questionnaire. As a general rule of thumb, it is comforting to have at least 300 cases for factor analysis and the current study met this criterion (Coakes & Ong 2011). An important value in this technique is KMO (Kaiser-Meyer-Olkin Measure of Sampling Adequacy), in which the sampling adequacy is measured based on correlation and partial correlation (Hair et al. 2010). The value approaches 1 if partial correlations are small. Values of 0.60 and above are required for good factor analysis (Hair et al. 2010).

3.10 Summary

This chapter presented the theoretical framework and research questions of the current study, and then explained and justified the methodology and methods used to address the research questions. The next chapter presents the detailed analytical process and results as well as associated discussion.

Chapter 4 Results and Discussion

4.1 Chapter introduction

The previous chapter commenced discussion of the research approach that underpins this study, including proposed research questions, data sampling and collection methods and a series of analytical techniques. This chapter presents the results of the data analysis and accompanying discussion in four sections. Section 4.2 firstly introduces the results of the descriptive analysis. Section 4.3 then presents the results of exploratory factor analysis on the scaled questions, in which the discussion of the place attachment scale addresses the first related research question. The following sections 4.4 and 4.5 respectively present the analytic procedures of the significance testing and other analysis, such as correlations and chi-square testing, to address the second and third related research questions. A brief summary in reference to the research questions and findings that address them concludes this chapter.

4.2 Descriptive analysis

This section presents the results of the descriptive analysis of the data to provide profiles on respondents' demographic characteristics and trip characteristics. It is an initial step prior to conducting further and more in-depth forms of analyses.

A total number of 435 visitors participated in the study, of which 232 respondents were sampled at the natural attraction (53.3%), and 203 were sampled at the man-made attraction (46.7%). The relatively comparative numbers sourced from both sites (53.3% versus 46.7%) enables further analysis with the purpose of examining differences between these two attraction types (Pallant 2011).

Most questions contained in the questionnaire were nominal choice (e.g., Q1) or interval Likert scales (e.g., Q10). The following subsections respectively present the frequencies of the nominal data, including the demographic characteristics of respondents and their trip characteristics (Section 4.2.1) and descriptive results of the interval scaled items, including the place attachment items, environmental perception items and behavioural intentions items (Section 4.2.2).

4.2.1 Demographic characteristics of the respondents

Table 4.1: Demographic characteristics of participants

Characteristic	Natural Attraction		Man-made Attraction		Total	
	n	**%**	**n**	**%**	**n**	**%**
Gender						
Male	101	43.5	77	37.9	178	40.9
Female	121	52.2	119	58.6	240	55.2
Age group						
18-29	103	44.4	51	25.1	154	35.4
30-39	53	22.8	39	19.2	92	21.1
40-49	26	11.2	36	17.7	62	14.3
50-59	20	8.6	34	16.7	54	12.4
60+	18	7.8	36	17.7	54	12.4
Highest education level completed						
Secondary school	23	9.9	40	19.7	63	14.5
Tertiary/TAFE	75	32.4	73	36.0	148	34.0
Postgraduate	85	36.6	51	25.1	136	31.3
Others	35	15.1	27	13.3	62	14.3
Nationality						
Australian	65	28.0	107	52.7	173	39.8
Non-Australian	154	66.4	90	44.3	241	55.4

Note. N = 435. Totals of percentages are not 100 for every characteristic because of rounding and general missing data.

Table 4.1 reveals respondents' demographic characteristics according to attraction type. The results of the gender output show a fairly even mix of males and females visiting the attractions. On the basis of age, however, it can be noted that the majority (56.5%) of visitors were aged between *18-39 years old* (the first two age groups). In the separate natural attraction sample, this percentage increases to 67.2%, indicating a younger profile of visitors at this site. The data also suggests a more even spread of visitor ages at the man-made attraction. In relation to education level, respondents visiting the natural attraction indicated common responses to *postgraduate* study. In comparison, respondents visiting the man-made attraction indicated common responses to *Tertiary/TAFE* as their highest level of education completed.

Similarly, when looking at the nationality of visitors, a difference can be noted in that the majority (66.4%) of the natural attraction respondents were *non-Australian* visitors, whereas *Australian* visitors comprised more than half (52.7%) of respondents visiting the man-made attraction. Among all non-Australian visitors, the most frequently reported country of origin was *China* (10.4%), followed by respondents from *the United*

Kingdom (UK) (9.7%) and *the United States (US)* (4.3%). This sequence of reported nationalities is mirrored for the natural attraction (*China* 14.7%, *UK* 10.6%, and the *US* 6.9%). Yet, in man-made setting, the sequence is different: *UK* 8.7%, *China* 5.6% and *the Netherlands* 3.1%. The data slightly differs from the international overnight visitor estimates to Victoria released by Tourism Victoria. In the year ending March 2011, which corresponds to the period of the data collection in this study, international overnight visitors to Victoria were estimated as follows: 15.1% from *New Zealand*, 12.3% from *China*, 12.0% from *UK* and 7.5% from *the US* (Tourism Victoria, 2012).

4.2.2 Characteristics of respondents' trip pattern

Table 4.2: Characteristics of respondents' trip pattern

Characteristic	Natural Attraction		Man-made Attraction		Total	
	n	%	n	%	n	%
Visitor type						
Local[15]	48	20.7	36	17.7	84	19.3
Intra-state (other area of Victoria)	30	12.9	60	29.6	90	20.7
Interstate	23	9.9	47	23.2	70	16.1
International	120	51.7	55	27.1	175	40.2
Length of the trip						
Day trip	182	78.4	118	58.1	300	69.0
Trip with overnight stay	21	9.1	44	21.7	65	14.9
Trip with two or more days stay	28	12.1	30	14.8	58	13.3
Travel partners						
Friends	79	34.1	46	22.7	125	28.7
Family members	99	42.7	112	55.2	211	48.5
Colleagues	5	2.2	7	3.4	12	2.8
Others*	28	12.1	29	14.3	57	13.1
Alone	7	3.0	2	1.0	9	2.1
First visit versus repeat visit						
First time visit	178	76.7	112	55.2	290	66.7
Re-visit	52	22.4	80	39.4	132	30.3
Prior knowledge of the attraction						
Heard of the attraction before	163	70.3	175	86.2	338	77.7
No prior knowledge	66	28.4	21	10.3	87	20.0
Think of past experience†						
Think of a childhood experience	71	30.6	118	58.1	189	43.4
Think of previous trip to the attraction	42	18.1	68	33.5	110	25.3
Think of previous trips to a similar attraction	115	49.6	124	61.1	239	54.9
Does not recall any past experience	2	0.9	2	1.0	4	0.9

Note. N = 435. Totals of percentages are not 100 for every characteristic because of rounding and general

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[15] Local visitors are identified as people who reside in the destination regions where the studied attraction was located. They are different from intrastate visitors who travel from places within in the state other than the studied regions, and interstate visitors who travel from other states. For example, local visitors at Sovereign Hill refer to those visitors who resided in Ballarat and came to Sovereign Hill for a day trip.

missing data

*Others include those who chose more than one option, such as *friends* and *family members*.

†*Think of past experience* has summarised a series of independent questions. The percentage of each item thus cannot be added up.

Table 4.2 outlines a number of trip related characteristics. Visitors were first classified into four groups based on where they travelled from. For example, intrastate visitors refer to those travelling from places within the State of Victoria other than the studied regions − visitors coming from the studied regions were regarded as local visitors; and interstate visitors refer to those travelling from the rest of Australia. Comparing the two attractions, whilst over half of the natural attraction sample was *international* visitors (51.7%), the man-made attraction had a fairly even mixed composition of *local, intra-state, interstate* and *international* visitors. This result indicates that the studied natural attraction attracted more international visitors than its man-made counterpart.

Except for this difference, the results reveal similar data distribution in relation to all other characteristics. Specifically, at both the natural and man-made attractions, a large portion of respondents indicated that their visit was a *first* time *day trip* and that they had some prior-knowledge of the attraction. About half of all respondents travelled with their family; only a very few (2.1%) travelled alone. In relation to the question of whether the attraction had led visitors to recall any past experiences, such as of their childhood, a previous trip to the attraction, and/or previous trips to a similar attraction, the *yes* response was most frequently given to *think of previous trips to a similar attraction*, followed by *think of a childhood experience* for both types of attractions. The relationships between these trip-related characteristics and the degree of visitors' place attachment are tested in Section 4.4 and Section 4.5.

4.2.3   Descriptive results of interval scaled items

In Section A of the questionnaire, Q10 and Q14 were used respectively to examine visitors' levels of place attachment and their evaluations of perceived environmental quality; in Section B of the questionnaire, a 21-item question was developed to ask about visitors' behavioural intentions. Each item was assessed using a 5-point Likert scale labelled from 1 for *strongly disagree* to 5 for *strongly agree*. Tables 4.3 − 4.5 below list all interval scaled items in the questionnaire, grouped according to construct and ordered from the highest mean rating to lowest on the total response. An exception to this rule is Table 4.4 which is ordered from the lowest mean to the highest, due to the negative wording of the items assessed.

Table 4.3: Descriptive results of place attachment items (Q10)

Place Attachment Item	order*	Total			Natural Attraction			Man-made Attraction		
		n	Mean†	SD	n	Mean	SD	n	Mean	SD
(a) This attraction means a lot to me.	1	425	3.58	0.86	227	3.52	0.87	198	3.65	0.85
(b) I feel very strongly attached to the attraction.	2	418	3.39	0.89	225	3.37	0.88	193	3.42	0.90
(e) I get more satisfaction out of visiting this attraction than from visiting any other attraction.	3	413	3.08	0.93	222	3.04	0.90	191	3.12	0.97
(f) I wouldn't substitute any other attraction for the type of experience I have here.	4	385	3.02	1.05	194	3.03	1.05	191	3.01	1.06
(c) I have a special connection to the attraction.	5	405	3.00	0.96	218	2.97	0.93	187	3.04	.1.00
(d) I have a special connection to the people who visit here.	6	392	2.78	0.97	215	2.75	0.98	177	2.81	0.97

Note. N = 435
* Rank order by descending means in total sample
†5-point Likert scale, runs from 1=strongly disagree, to 5=strongly agree

Table 4.4: Descriptive results of environmental perception items (Q14)

Environmental Perception Item	order*	Total			Natural Attraction			Man-made Attraction		
		n	Mean†	SD	n	Mean	SD	n	Mean	SD
(b) This attraction may cause damage to the environment	1	407	1.94	0.97	215	2.09	1.02	192	1.78	1.12
(c) I have seen litter at the attraction.	2	401	2.01	1.10	210	2.08	1.12	191	1.94	1.07
(d) Too many spaces are overcrowded.	3	406	2.10	1.00	213	2.38	1.01	193	1.79	0.90
(a) The attraction is too overdeveloped.	4	410	2.19	0.96	215	2.43	0.98	195	1.92	0.87
(e) Some visitors were inconsiderate.	5	405	2.56	1.24	212	2.87	1.27	193	2.22	1.12

Note. N = 435
*Rank order by ascending means in total sample.
†5-point Likert scale, runs from 1=strongly disagree, to 5=strongly agree.

Table 4.5: Descriptive results of behavioural intentions items (Q15)

Visitor Behavioural Intentions Item	order*	Total n	Total Mean†	Total SD	Natural Attraction n	Natural Attraction Mean	Natural Attraction SD	Man-made Attraction n	Man-made Attraction Mean	Man-made Attraction SD
(u) Overall, the attraction is a pleasant place.	1	411	4.24	0.80	221	4.08	0.85	190	4.43	0.68
(a) I am happy about my decision to visit this attraction.	2	419	4.23	0.83	223	4.08	0.89	196	4.40	0.73
(b) I believe I did the right thing when I chose to visit this attraction.	3	416	4.20	0.80	222	4.04	0.84	194	4.39	0.71
(c) Overall, I am satisfied with my decision to spend my time at this attraction.	4	414	4.18	0.82	220	4.01	0.86	194	4.38	0.71
(t) I feel people at the attraction are friendly.	5	411	4.13	0.81	219	3.97	0.88	192	4.31	0.68
(e) I will recommend this attraction to others.	6	413	4.08	0.93	221	3.91	1.01	192	4.28	0.79
(s) The facilities at the attraction are satisfactory.	7	401	3.99	0.79	213	3.90	0.82	188	4.10	0.75
(q) I sorted my rubbish to separate non-recyclable from recyclable material at the attraction.	8	350	3.88	1.03	180	3.77	1.08	170	4.00	0.96
(j) I prefer to visit this attraction with people who are important to me.	9	399	3.87	0.96	213	3.90	0.92	186	3.84	0.99
(g) I feel pleased when I participate in the events or activities (e.g., feeding animals) at this attraction.	10	328	3.79	0.88	150	3.70	0.92	178	3.86	0.83
(h) Participating in these events/activities (e.g., feeding animals) interests me.	11	354	3.78	0.89	171	3.85	0.85	183	3.72	0.93
(r) I conserved water as much as I could at the attraction.	12	354	3.77	1.02	179	3.73	0.99	175	3.82	1.04
(l) I would like to talk to staff working at the attraction.	13	400	3.66	0.86	215	3.49	0.87	185	3.85	0.80
(d) I will visit this attraction again in the future.	14	397	3.55	1.15	212	3.39	1.14	185	3.74	1.15
(i) I prefer there to be more events or activities at the attraction.	15	392	3.43	1.14	205	3.57	1.15	187	3.27	1.11

(**Table 4.5** continues)

(**Table 4.5** continued)

Visitor Behavioural Intention Item	Total				Natural Attraction			Man-made Attraction		
	order*	n	Mean**	SD	n	Mean	SD	n	Mean	SD
(m) I would like to talk to the local residents.	16	384	3.29	0.92	205	3.25	0.92	179	3.33	0.92
(f) I don't mind spending more money at the attraction if necessary.	17	409	3.27	1.21	219	3.07	1.22	190	3.49	1.17
(k) I would like to talk to other visitors.	18	395	3.25	0.96	211	3.25	0.97	184	3.25	.94
(p) I tried to convince friends/relatives/other visitors to act responsibly at the attraction.	19	360	3.22	1.15	194	3.27	1.06	166	3.16	1.24
(n) I tried to learn what I can do to help solve environmental issues at the attraction.	20	390	3.15	1.11	212	3.34	1.02	178	2.92	1.16
(o) I talked with others about environmental issues at the attraction.	21	361	2.63	1.10	196	2.74	1.08	165	2.50	1.10

Note. N = 435
*Rank order by descending means in total sample
†5-point Likert scale, runs from 1=strongly disagree, to 5=strongly agree

In Table 4.3 presenting descriptive results of place attachment items, respondents showed the highest level of agreement with the item *This attraction means a lot to me* (Q10a) and the lowest level of agreement with the item *I have a special connection to the people who visit here* (Q10d). This is consistent in the total sample as well as in separate natural and man-made samples. In relation to Q10a, Q10b, Q10e, and Q10f, respondents from both attractions indicated a *neutral* level of agreement. This is in contrast to the result of Item Q10d *I have a special connection to the people who visit here*, with which respondents from both attractions showed a below *neutral* level of agreement. Q10c *I have a special connection to the attraction* was also distinct from the other place attachment items, as it received a rating below *neutral* by the natural attraction sample but above *neutral* in the man-made sample. Overall, slightly more visitors agreed with the descriptions of a positive place attachment status, except for having *a special connection to the people who visit here* (Q10d).

The environmental perception items presented in Table 4.4 were negatively worded. The questions were modified from Kyle et al.'s (2004a) scale and each stated an environmental problem that visitors may perceive at the attraction: environmental damage (Q14a), litter at the attraction (Q14c), overcrowding (Q14d), overdevelopment (Q14a) and inconsiderate visitors (Q14e). The mean levels for all five items in the total sample were below 3.00, showing that the respondents indicated a level of *disagreement* with the item descriptions, which means they disagreed with the view that the attractions led to environmental problems. On the other hand, visitors sampled at the man-made attraction demonstrate more positive perceptions of the attraction environment than those visiting the natural attraction. This can be seen from the result that four out of five items in the man-made setting obtained a mean below 2.00, indicating that visitors showed a *strong* level of disagreement with the items; whereas no mean score was below 2.00 *disagree* in relation to the natural setting. Q14e *some visitors were inconsiderate* gained the highest mean score (2.25 in total, 2.87 at the natural attraction, and 2.22 at the man-made attraction) among the five items. Therefore it can be summarised that visitors strongly disagreed with the view that the attractions led to environmental problems such as environmental damage, litter at the attractions, overcrowding, and overdevelopment, but only slightly disagreed with that there were inconsiderate visitors (Q14e).

Table 4.5 details the findings relating to behavioural intention items. In the total sample,

twenty out of 21 items had mean scores above the neutral point of 3.00, suggesting more respondents *agreed* or *strongly agreed* with the behavioural intentions assessed. The item that gained the highest mean score was *Overall, the attraction is a pleasant place*, followed by *I am happy about my decision to visit this attraction* (Q15u). At 2.63, the mean score for the last item in the table (Q15o) was below the neutral point of 3.00 on the Likert scale, indicating that most respondents disagreed with *I talked with others about environmental issues at the attraction*. When comparing the two attractions, respondents visiting the man-made attraction indicated *strong* levels of agreement with more items (eight) than the respondents visiting the natural attraction (eight versus four). In addition, several items had comparatively large standard deviations (SD>1), indicating a spread of responses, such as Q15f *I don't mind spending more money at the attraction if necessary* (SD=1.21).

In summary, Table 4.3 to Table 4.5 present the descriptive results of three scaled questions in the questionnaire and revealed that respondents on average (i) showed a neutral level of agreement with most place attachment items, (ii) disagreed with indicated environmental problems at the attractions, and (iii) showed a neutral or strong level of agreement with most behavioural intentions assessed.

After presenting the descriptive results of those interval scaled items in the questionnaire, the next step was using factor analysis to reduce the variables to a manageable set of factors to enable further difference testing, of which the results and discussion are presented in Section 4.3.

4.3   Factor analysis

Exploratory factor analysis can assist in isolating underlying patterns through which several variables correlate to each other (Kinnear & Gray 2010). It also assists in justifying the inclusion and exclusion of essential items to create independent scales. Based on this, factor analysis was used to reduce a large number of variables into a smaller number of representative factors. During the process, the reliability of the newly created factors was tested to see if the items were tapping into the same construct (Berkman & Reise 2012).

There are two different approaches to factor analyses, exploratory and confirmatory (Hair et al. 2010). The current study adopted an exploratory perspective to search for structure among a set of variables. It did not take a confirmatory approach because this

perspective involves testing hypotheses regarding how many factors should be generated and how variables should be grouped on a factor (Hair et al. 2010). The current study as highlighted in Section 3.2 did not propose any hypothesis. Additionally, the scales used in this study were adapted from existing scales and were tested in a previously untested context. It was considered that an exploratory approach would better enable this study to explore the latent patterns of the adapted variables in this new study context.

This section outlines the results and discussion of analysis conducted using Principal Axis Factoring (PAF), one of the most frequently used factor extraction techniques, on the place attachment items, the environmental perception items, and visitors' behavioural intention items respectively. The normality of these items was tested. The results showed an acceptable skewness and kurtosis values (See Appendix D), which according to Hair et al. (2010) should fall inside the threshold range of ±2.58. Through PAF, a number of reliable scales were identified: (i) place attachment scale, (ii) environmental perception scale, and (iii) five behavioural intention scales: positive orientation scale, pro-environment behaviour scale, pro-environment orientation scale, social interaction scale and personal participation scale.

4.3.1   Place attachment Scale

Factor analysis and reliability testing on place attachment items
Question 10 in Section A of the questionnaire (Appendix A) was designed to assess visitors' level of place attachment, in the form of six items measured using a 5-point Likert scale. The descriptive results of these items were presented in Table 4.3.

PAF was used to explore the underlying dimensions of the place attachment items. A KMO value of 0.795 was observed, which exceeded the minimum requirement of 0.60 (Hair et al. 2010), indicating that the place attachment items were suitable for factor analysis. The factor analytic procedure yielded a one-factor solution (Table 4.6) and the factor was labelled *place attachment*.

Table 4.6: PAF analysis results of Q10 – place attachment items

Item	Place attachment
(b) I feel very strongly attached to the attraction.	0.770
(c) I have a special connection to the attraction.	0.759
(a) This attraction means a lot to me.	0.681
(e) I get more satisfaction out of visiting this attraction than from visiting any other attraction.	0.677
(f) I wouldn't substitute any other attraction for the type of experience I have here.	0.536
(d) I have a special connection to the people who visit here.	0.535
% of variance explained	**53.2**
Alpha	**0.817**

Extraction Method: Principal Axis Factoring

Rotation Method: Varimax With Kaiser Normalization

A reliability test was then performed on this scale, which produced a Cronbach's Alpha of 0.817. This is above 0.70 and means the reliability of the solution was determined to be acceptable (Hair et al. 2010). The results of the alpha-if-item-deleted analysis showed that all items in the scale should be retained, as the elimination of the items would not improve the alpha score. The cumulative variance (53.2 %) indicates that more than half of the variance can be explained by this solution.

Interpretation and discussion

The most frequently applied place attachment scale within recreation and tourism studies is the two dimensional scale with the sub-dimensions of place identity and place dependence (Williams & Vaske 2003) and its numerous modified versions (e.g., Kyle et al. 2005). Detailed discussion on these scales has been presented in Chapter Two (Section 2.2.2) and Chapter Three (Section 3.5.1). The items used in the present questionnaire were modified from the two dimensional place attachment scales (Kyle, Graefe & Manning 2005). Yet, in the current study, place attachment loaded as a single dimension, suggesting that all items in the scale were correlated. This result is similar to certain existing studies (e.g., Gross and Brown 2006) which have found place attachment to be a unidimensional construct with no sub-dimensions. Given the

literature suggesting that the salient dimensions vary across study contexts (Lee et al., 2012), this result was not surprising.

Based on the findings of the factor analysis and reliability analysis, a new variable was created to represent the unidimensional place attachment scale (Q10: (a+b+c+d+e+f+d)/6). Descriptive analysis of the new variable indicates that the data was not normally distributed (See Appendix D for normality histogram), with the majority of respondents indicating a neutral level of place attachment towards the attractions under study (Mean=3.11, Median=3, Standard Deviation = 0.68).

In comparison with the average reported levels of place attachment in previous studies (Table 4.7), it can be observed that the mean level obtained in this study is comparable. Although the comparison is limited to some extent by varied measurements between this study and other studies and varied ways of sampling and data collection, the findings tentatively indicate that visitors show comparable place attachment levels to both tourism destinations and tourism attractions.

Further looking at place attachment in the separate attraction settings, the descriptive results showed that the man-made attraction sample (Mean=3.12, SD=0.67) obtained a slightly higher mean level on the place attachment scale than the natural attraction sample (Mean=3.08, SD=0.69). However, an independent-sample t-test indicated that this mean difference was not statistically significant (detailed discussion in Section 4.4.1). Therefore, only the mean score for the total sample is included in Table 4.7.

Table 4.7: Mean levels of place attachment reported in tourism and leisure studies

Authors	Study settings	Mean levels of reported place attachment*
The current study	Tourism attractions	3.11
Gross & Brown (2006)	Visitor information centres	2.59-2.92[†]
Kaltenborn and Williams (2002)	National parks	2.9-3.6[†]
Williams et al. (1992)	Wilderness areas	3.10-3.40[†]

Note. Sourced from Gross and Brown 2006, p. 699.
*Place attachment examined all using the Likert Scales ranges from 1 to 5 points.
†Results from multi sample sets

In Section 2.3.2, a debate was raised with some researchers suggesting that visitors'

level of attachment towards tourism settings is weak, much lower than residents' level of attachment towards their residential settings (e.g., Hay 1988). The primary reasons behind this line of thinking include: (i) residents have a feeling of owning and belonging to the place which visitors do not have, and (ii) the length of interaction of residents with their home location is much longer than that of a visitor. Thus the ability of visitors to feel place attached to tourism attractions was questioned as generally they interact with the attractions for a comparatively shorter time. Yet the empirical results in the presented study support the opposite contention that visitors can be place attached towards tourism attractions. It echoes the view that visitors' place attachment can be different in nature from residents' place attachment (Kaltenborn 1997). Unlike the latter view which mixes with a feeling of owning of the places, visitors' place attachment can be formed because the tourism settings either satisfy tourists' various needs, such as visiting, socialising and entertaining, or contribute to visitors' own identity development, despite the length of visitor interactions with the attractions being limited.

The above discussion has addressed the first research question of to what extent visitors can be place attached to tourism attractions. Answers to this question consisted of two parts: (i) respondents have indicated a neutral level of place attachment towards the attractions under study and (ii) the mean level of the place attachment scale was comparable with the reported place attachment levels in other studies based on tourism destinations.

To enable further difference testing, the sample was split according to the median of the place attachment scale: above the median (Total PA score≥3) and below the median (Total PA score between 0~2.99). The former group refers to those respondents who felt a fairly strong sense of place attachment toward the attractions studied, whilst the latter group refers to the remainder whose place attachment to the attraction was weak or who disagreed that they were place attached. The analytic techniques, independence-samples t-test and chi-square analysis reported in Section 4.4 and 4.5 involved further analysis employing this median split.

4.3.2 Environmental perception scale

Q14 (5 items) was developed to assess visitors' environmental perceptions of the attractions under study. Similar to the analytical procedure used on place attachment items, firstly factor analysis and consequently reliability testing were performed on Q14

items.

PAF generated a good KMO of 0.795, again supporting the factorability of the correlation matrix. A one-factor solution was yielded and labelled as the *environmental perception* scale. Item c (I have seen litter at the attraction) was deleted because of its comparatively low loading (0.506). After deleting it, the cumulative variance explained increased from 56.1% to 63.2%.

Table 4.8: PAF analysis results of Q14 – environmental perception items

Environmental Perception	
(b) This attraction may cause damage to the environment.	0.783
(d) Too many spaces are overcrowded.	0.777
(a) The attraction is too overdeveloped.	0.674
(e) Some visitors were inconsiderate.	0.620
% of variance explained	**63.2**
Alpha	**0.797**

Extraction Method: Principal Axis Factoring
Rotation Method: Varimax With Kaiser Normalization

Consequently reliability testing generated an alpha score of 0.797, above the minimum requirement of 0.70, indicating that the scale was reliable. The scale assesses whether respondents have perceived any problems that are associated with the attraction environment, in terms of environmental damage, overcrowded spaces, overdevelopment and inconsiderate visitors.

A new variable was also created to represent the unidimensional environmental perception scale. This was done through reversing the negative worded items and calculating the average sum score of the reversed items in the scale. The mean level of the new scale was 3.81 (SD=0.83), which indicates that visitors disagreed that the studied places were experiencing environmental problems associated with tourism. This is similar to the result reported in Kyle et al.'s (2004a) study assessing visitors' environmental perceptions, in which most respondents did not perceive the site environment as problematic. The result is unsurprising, as visitors in a holiday mood may tend to perceive environmental conditions at the attractions positively. In addition, according to Stedman (2003), environmental perception to some degree relies on

information available at the place. Most visitors who interacted with tourism attractions for a limited length of time were not as informed as local residents to be critical of the social and environmental conditions at the attractions.

In isolating the attraction samples, the average response to the environmental perception factor was 3.56 (SD=0.82) in the natural setting and 4.09 (SD=0.73) in the man-made setting. This difference was deemed statistically significant: $t(392)=-6.82$, $p<0.001$ (explanations regarding the values related to different testings are presented in Section 4.4). Looking at this result in tandem with results of the pro-environment orientation scale generated in the next section, the finding that respondents sampled from the man-made setting were less likely to perceive the attraction environment as problematic can reasonably be explained by the contention that visitors at natural attraction were more conscious about environmental issues. Thus they are more likely to be aware of the environmental problems onsite.

4.3.3   Visitor behavioural intentions

Q14 was developed to assess respondents' behavioural intentions, such as satisfaction, repeat visitation intention, spending attitudes, recommending behavioural intentions, pro-environmental behavioural intention, activity participation intention, and social interaction intention. Q8 and Q9 were used to ask for additional information regarding visitors' actual participation in events or activities at the attractions, while Q12 and Q13 were used to capture visitors' social interactions at the attractions.

A five-factor solution was yielded (KMO=0.871). The factors were respectively characterised as: *positive orientation* (Factor 1), *pro-environmental behaviour* (Factor 2), *pro-environmental orientation* (Factor 3), *personal participation* (Factor 4), and *social interaction* (Factor 5). Table 4.9 presents the factors and their associated items, ordered according to their factor loadings from highest to lowest.

Table 4.9: PAF analysis of Q15 – behavioural intentions

Item	Factor				
	Positive Orientation	Pro-environmental behaviour	Pro-environmental orientation	Personal Participation	Social Interaction
(a) I am happy about my decision to visit this attraction.	0.898				
(c) Overall, I am satisfied with my decision to spend my time at this attraction.	0.880				
(b) I believe I did the right thing when I chose to visit this attraction.	0.879				
(u) Overall, the attraction is a pleasant place.	0.612				
(d) I will visit this attraction again in the future.	0.595				
(f) I don't mind spending more money at the attraction if necessary.	0.466				
(q) I sorted my rubbish to separate non-recyclable from recyclable material at the attraction.		0.655			
(r) I conserved water as much as I could at the attraction.		0.627			
(t) I feel people at the attraction are friendly.		0.606			
(s) The facilities at the attraction are satisfactory.		0.594			
(n) I tried to learn what I can do to help solve environmental issues at the attraction.			0.748		
(o) I talked with others about environmental issues at the attraction.			0.664		
(p) I tried to convince friends/ relatives/ other visitors to act responsibly at the attraction.			0.620		
(h) Participating in these events/ activities interests me.				0.772	
(g) I feel pleased when I participate in the events or activities at this attraction.				0.767	
(m) I would like to talk to the local residents.					0.722

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(k) I would like to talk to other visitors.					0.685
(l) I would like to talk to staff working at the attraction.					0.553
Eigenvalue	**7.12**	**3.09**	**1.54**	**1.29**	**1.11**
Cumulative % explained	**33.9**	**48.6**	**56.0**	**62.1**	**67.4**
Alpha	**0.905**	**0.793**	**0.776**	**0.863**	**0.785**

Extraction Method: Principal Axis Factoring

Rotation Method: Varimax With Kaiser Normalization

Item *j* loaded poorly (0.316) with the other items on the *positive orientation* factor while Item *i* loaded poorly (0.379) with the *personal participation* factor. The following reliability testing showed that with the elimination of these two items, the Cronbach's alpha score of *positive orientation* improved from 0.875 to 0.905 while that of *personal participation* score improved from 0.720 to 0.863. Thus item *j* and item *i* were excluded. Table 4.9 demonstrates that all factors have good levels of reliability with Cronbach's alpha above 0.70.

Interpretations for the five factors are as follows:

- *Positive orientation* scale captured those behavioural intentions that are usually viewed as positive visitor behaviours and linked to high levels of satisfaction, for example, to revisit the attraction and to recommend it to others.

- *Pro-environmental behaviour* scale referred to how environmentally friendly visitors behaved (sorted rubbish and conserved water), and perceived other visitors' behaviours and facility qualities.

- *Pro-environmental orientation* highlighted visitors' awareness of and their activeness to get involved with environmental issues in terms of learning relevant knowledge and raising environmental related conversations.

- *Personal participation* accounted for visitors' participation intentions relating to events and activities held at the attraction.

- *Social interaction*, interpreted from its label, represented how people intended to socialise with local residents, attraction staff and other visitors at the attractions.

Following the convention of the previous analysis of the place attachment and environmental perception items, five new variables were created to represent the generated factors. Their descriptive results are shown in Table 4.10.

Table 4.10: Levels of mean for behavioural intention scales

	Total			Natural Attraction			Man-made Attraction		
	N	Mean	SD	N	Mean	SD	N	Mean	SD
Positive Orientation	376	3.99	0.72	205	3.82	0.74	171	4.19	0.64
Pro-environmental behaviour	329	3.96	0.71	164	3.87	0.75	165	4.05	0.66
Pro-environmental orientation	337	2.99	0.93	185	3.10	0.88	152	2.87	0.97
Personal Participation	323	3.79	0.82	147	3.78	0.81	176	3.80	0.83
Social Interaction	375	3.39	0.77	201	3.33	0.80	174	3.47	0.72

Except for *Pro-environmental orientation*, the man-made sample obtained higher mean scores than the natural attraction for all constructs. Statistically significant differences were found for *positive orientation*, *Pro-environmental behaviour*, and *Pro-environmental orientation*. This was based on the values of *p* with significant differences being below the significance level of 0.05 (in relation to *positive orientation*, $p<0.001$). The result on face value showed that the visitors approached at the natural attraction were more concerned about environmental issues, whereas visitors from the man-made attraction showed a higher tendency to practice pro-environmental actions.

In the total sample, the *positive orientation* scale attracted the highest mean score: mean=3.99, indicating that respondents on average agreed that they were satisfied visitors with positive behavioural intentions, whereas the *pro-environmental orientation* scale attracted the lowest mean score 2.99. It is interesting that the mean score for *pro-environmental behaviour* scale was 3.96, suggesting that respondents were more proactively protecting environment than talking about it. These five factors together represented visitors' behavioural intentions assessed in the study and provided a basis for the following difference and association tests.

4.4 Independent-samples t-test

An independent-sample t-test can be used to determine whether there is a significant difference between two sets of different samples (Hair et al. 2010). This study used t-tests to understand differences in place attachment based on different variables as well as differences in visitors' behavioural intentions based on the degree of visitor place attachment.

Analysis was performed firstly to assess the difference in place attachment (dependent variable) for attraction types, visitor characteristics and trip patterns as well as visitor environmental perceptions (independent variables). For nominal variables, only the two most common groups were chosen for t-tests, or the groups were summarised into two broad categories. For scaled variables, like environmental perception scale in 4.3.1, data were split into two groups on the basis of the median scores (above or below the median). The median and mean splits are commonly applied methods for turning interval scaled data into categorical data, and there is no general rule to determine which is more appropriate (Croucher 2010). The median represents the middle observation in a dataset, which is easy to comprehend whilst the mean value may be distorted by outlying observations. Therefore the median is a better measure of central tendency for interval or ratio data when there are outliers (Malhotra et al. 2006), which was the case in the current study.

Secondly, mean levels of visitor behavioural intentions were compared based on high and low levels of place attachment split by the median. As such, the analysis was able to compare mean levels on the dependent behavioural variables (positive orientation, pro-environmental behaviour, pro-environmental orientation, personal participation and social interaction) based on the degree of place attachment (below and above median) as the independent variable.

The testing is based on the values of p. The analysis has been repeated for the combined total sample as well as separately for the natural and man-made samples of visitors, to see if the nature of the attractions had a differential effect on the findings. Then individual visitor behavioural intention items were chosen as dependent variables to conduct t-tests according to place attachment groups in the total sample in the following sub-sections.

All results are presented in turn in the following sub-sections. To avoid the length of thesis becoming excessive, detailed t-test outcomes are outlined in combined tables. Accompanying interpretations are provided under each table. Prior to the detailed discussion, it is useful to indicate two important values: the significant levels for the Levene's test and two-tailed significance for the independent-samples t-test.

The analytic software (SPSS v.20) used in the present study provides two alternative forms of t-values depending on the equality of population variances, which is tested

using the Levene's test. If the significance level for the Levene's test is below the cut-off of 0.05, the assumption of equal variances has been violated (Pallant 2011). In other words, the variability in the two groups is significantly different. Oppositely, when the significance level for the Levene's test exceeds 0.05, the assumed equal variances are satisfied and the output of independent-samples t-test in relation to equal variance estimated can be consulted. The consequent sub-sections all follow this protocol. For the sake of brevity only the consulted outputs are reported in the following tables.

The usual cut-off point for two-tailed significance value in independent-samples t-test is 0.05 (Kinnear & Gray 2010). If Sig. (2-tailed) p value is equal or less than 0.05, there is deemed to be a significant difference in the mean scores on the tested variables for each of the two groups. The probability can be further classified into two levels: below 0.05 and below 0.001. When p is below 0.001, it means that the probability of the difference occurring by chance is less than 1 in every 1000 times, which indicates the difference is more statistically significant (Kinnear & Gray 2010).

4.4.1 Place attachment differences

The present difference analysis tests whether the mean differences in visitors' place attachment are statistically significant according to different visitors' characteristics and behavioural intentions levels (above and below median).

Table 4.11: t-tests: place attachment differences for attraction types, visitor characteristics and trip patterns

Independent variables	N	Mean	SD	t	df	p
Type of attraction				-0.58	355	0.566
Natural attraction	185	3.08	0.68			
man-made attraction	172	3.13	0.67			
Gender				-1.53	349	0.128
Male	145	3.03	0.69			
female	206	3.14	0.66			
Age				0.91	346	0.363
Age above 30	215	3.12	0.67			
Age between 18-29	133	3.05	0.69			
Type of visitor				0.04	349	0.968
International visitors	149	3.09	0.65			
Domestic visitors	202	3.09	0.69			
Nationality				-0.61	346	0.544
Australia	140	3.07	0.68			
Others	208	3.12	0.67			
Highest level of education*				-1.06	241	0.289

	N	Mean	SD	t	df	p
Tertiary / TAFE	123	3.04	0.67			
Postgraduate	120	3.13	0.71			
Travel partner*				**1.22**	**280**	**0.223**
Friends	105	3.16	0.67			
Family members	177	3.06	0.67			
Length of trip				**-0.46**	**351**	**0.646**
trip with overnight and more days stays	106	3.08	0.69			
Day-trip	247	3.12	0.67			
First visit or not				**0.29**	**350**	**0.769**
First time visit	239	3.11	0.64			
Repeat visits	113	3.09	0.73			

Note. Equal variances assumed.
* Most frequently reported options.

Table 4.11 outlines results of significant testing comparing place attachment means between samples grouped by attraction types, visitor characteristics and trip patterns. The results indicate that none of these differences are significant. Regardless of the nature of the attraction, gender, age, nationality, education level and visitor type, mean scores obtained on the place attachment scale were comparable. The mean scores also did not appear to vary between visitors who travelled with friends or with their family, who visited the attraction either for the first time or were repeat visitors, or who were on a day trip or a trip comprising an overnight stay. Although there are studies suggesting an influence on place attachment arising from the demographic profile of respondents in terms of age, gender or cultural background (Hou et al. 2005; Johnson 1998), other studies in tourism context have not reported any significant differences based on these variables (Gross & Brown 2006; Hailu, Boxall & McFarlane 2005; Hwang, Lee & Chen 2005; Tsai 2011; Yuksel, Yuksel & Bilim 2010). The varying results can be linked to different sample sets and the nature of the attractions under study.

Some variables are worthy of further discussion. Age and educational level were further broken down to 4~5 categories in Section 4.5.2 and chi-square tests were performed to examine the associations between them and place attachment. Domestic and Australian participants were expected to have higher place attachment towards the attractions due to their feelings of owning and belonging to the attraction site. However, the results showed not only insignificant differences but also a slightly higher level of mean place attachment for other nationalities than Australian visitors. Hou et al.'s (2005) discovery that visitors from the same cultural background as the attraction community developed

place identity whilst those from different cultural backgrounds developed place dependence may potentially explain the reason behind this observation.

Similarly, differences were expected between the first time and repeat visitors and on the basis of length of stay (day-trip or overnight stay trip), as the length of interaction with the attraction was deemed to be an essential factor in forming people-place relationships (e.g., Tuan 1975; Zajonc 2001). The data, however, did not support these contentions. From another perspective, this finding is not surprising either. There are studies which have suggested that the associations between time and place attachment vary according to different stages of people's interactions with a place (Stedman 2006). In the very early stage of people-place interactions, time influences place attachment formation only to a negligible extent; in the later stages, the influence of time becomes more salient and predicts place attachment levels better (Stedman 2006). In other words, there could be potential differences between day-trippers and those visitors who stay at the attraction for weeks or months, or between those who visit the place for the first time and those who frequently re-visit.

As mentioned in 2.3.4, existing research dealing with place attachment has placed more emphasis on natural environments than man-made settings, thus the current study was interested in examining if there was differences in visitors' place attachment between natural and man-made attractions. The above results showed that observed place attachment levels did not statistically differ between the studied attractions in this study. The latent reasons can be related to the different nature of visitors' place attachment. The selection of specific attractions by visitors was likely motivated by different reasons. Visitors' level of place attachment could be related to the ability of the attractions to satisfy their expectations (Zhou & Xu 2009). Thus when looking at specific sites, visitors' own interests may override the instinctive emotional attachment people have towards nature, which leads to an inconspicuous difference in the strength of place attachment. Regardless, it is premature to declare that the nature of tourism attractions has no impact on place attachment. Bricker and Kerstetter (2000) raised the difference in place attachment predictors between different types of recreational places. This study will further examine whether the nature of tourism attractions will influence how place attachment is associated with visitor behavioural intentions.

Table 4.12: t-tests: place attachment scale differences for environmental perception

Independent factors		Place attachment scale				df	p
		N	Mean	SD	t		
Environmental perception	Above Median		3.10	0.67	**0.042**	**357**	**0.967**
	Below Median		3.09	0.68			

Note. Equal variances assumed.

The difference in place attachment scale between participants' environmental perception levels was also tested using t-tests. Environmental perception was split using the median, between which mean levels of place attachment were compared. Table 4.12 showed that the mean difference in place attachment for environmental perception (above and below median) was not significant. Visitors' level of place attachment was not affected by whether visitors could perceive more or less environmental problems. This finding adds to mixed support for visitors' perceptions of environmental qualities affecting the magnitude of their place attachment levels (Bonaiuto et al. 1999; Kyle et al. 2004a).

4.4.2 Visitor behavioural intention differences - Scale

The t-tests presented in this sub-section measure whether the mean differences in visitors' behavioural intentions based on place attachment (below and above median) are statistically significant.

Table 4.13: t-tests: behavioural intention scales differences in combined sample

Behaviour intention scales	Place attachment-below median			Place attachment-above median			t	df	
	N	Mean	SD	N	Mean	SD			
Positive orientation	114	3.7	0.78	210	4.1	0.66	-4.85	200.84	**
Pro-environmental behaviour	95	3.8	0.78	187	4.0	0.68	-1.83	168.43	
Pro-environmental orientation	102	2.6	0.98	192	3.1	0.86	-4.64	184.47	**
Personal participation	91	3.5	0.88	191	3.9	0.77	-3.71	280#	**
Social interaction	115	3.2	0.74	212	3.5	0.74	-2.97	325#	*

*p<0.05. **p<0.001. # Equal variances assumed

From Table 4.13, it can be seen that there was a significant difference in positive orientation scores for the place attachment group below the median (mean=3.7, SD=.78) and above median (mean=4.1, SD=.66), t(200.84)=-4.85, p<.001. Cohen (1988) proposed eta squared values for calculating the effect size, which is one of the most

commonly used indications[16] of association strength. This value can be interpreted as: 0.01=small effect, 0.06=moderate effect and .14=large effect (Cohen 1988, pp. 284-7, cited in Pallant 2011, p.243). According to this guideline, the magnitude of the differences in the means was moderate ($\eta^2 = 0.06$). The results suggest that levels of place attachment do have a moderate effect on how positively visitors are likely to behave as a result of visiting the attractions under study.

From the output it can also be seen that there were no significant differences in the pro-environmental behaviour construct between place attachment groups above and below the median. The sig.(2-tailed) value has exceeded the cut-off point of 0.05.

Like the positive orientation variable, pro-environmental orientation was a good discriminator between place attachment groups. The place attachment group below the median had lower scores on pro-environmental orientation than the place attachment group above the median, $t(184.47) = -4.64$, $p<0.001$. Based on the eta squared value, the magnitude of the difference was moderate (eta squared=0.07).

In relation to the remaining factors, significant differences in participation intentions between the place attachment groups were evidenced ($t (280) = -.3.71$, $p<0.001$, $\eta^2 = 0.05$). The mean score of social interaction scale rated by the place attachment group below the median (M=3.2, SD=0.74) was significantly lower than that of the place attachment group above median (M=3.5, SD=0.74): $t (325) = -2.97$, $p<0.01$. The eta squared value is: 0.03, a small effect. It can be observed that social interaction, positive orientation and environment consideration are all good discriminators between attachment groups whereas social interaction has much a smaller effect.

Table 4.14: t-tests: behavioural intention differences in natural sample

Behaviour intention scales	Place attachment-below median			Place attachment-above median			t	df	η^2
	N	Mean	SD	N	Mean	SD			
Positive orientation	64	3.6	.82	108	3.9	.69	-3.04	170	0.05[*]
Pro-environmental behaviour	47	3.8	.80	87	3.9	.74	-1.13	132	
Pro-environmental orientation	57	2.8	.95	101	3.2	.86	-2.46	156	0.04[*]
Personal Participation	39	3.6	.91	84	3.9	.74	-1.81	121	
Social interaction	63	3.1	.73	108	3.4	.84	-2.04	169	0.02[*]

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[16] Eta Squared value is calculated by $\eta^2 = \dfrac{t^2}{t^2 + df}$. Df = N1+N2-2 (Pallant 2011).

Table 4.15: t-tests: behavioural intention differences in man-made sample

Behaviour intention scales	Place attachment-below median			Place attachment-above median			t	df	η^2
	N	**Mean**	**SD**	**N**	**Mean**	**SD**			
Positive orientation	50	3.9	.72	102	4.3	.57	-4.29	150	0.11**
Pro-environmental behaviour	48	3.9	.76	100	4.1	.62	-1.52	146	
Pro-environmental orientation	45	2.3	.95	91	3.1	.86	-4.68	134	0.14**
Personal participation	52	3.5	.87	107	3.9	.79	-3.33	157	0.07**
Social interaction	52	3.3	.76	104	3.5	.61	-2.13	154	0.03*

*p<.05. **p<.001. Equal variances assumed

Looking at the outputs in separate samples, an interesting finding can be observed about personal participation. The mean difference in personal participation at the man-made attraction was significant whereas this was not the case for the natural attraction. This difference may be associated with the fact that the studied man-made attraction offered more on-site activities than the studied natural attraction, which enabled visitors sampled at the man-made attraction respond to the question regarding participation better.

The other variables remain consistent with the combined sample outputs: except for pro-environmental behaviour, significant differences were found in positive orientation, pro-environmental orientation, and social interaction between participants whose place attachment were rated below and above the median. Yet, the man-made attraction witnesses much stronger statistical differences ($\eta^2 = 0.11$ for positive orientation and $\eta^2 = 0.14$ for pro-environmental orientation).

In summary, it appears from the independent-samples t-tests that the ratings in positive orientation, environment consideration, personal participation and social interaction scales are significantly different between place attachment groups split using median, except for the environment protection scale. These results suggest that place attachment levels do have an effect on certain visitors' behavioural intentions. In all cases, when respondents showed a level of place attachment above the median, their average scores related to behavioural intention factors were higher than those whose place attachment were rated below the median. In other words, those visitors that indicated a stronger degree of place attachment demonstrated more positive visitor behavioural intentions at

the attractions under study.

When comparing specific type of attractions, further differences arise. Outputs showed that there was a significant difference in ratings for personal participation for the place attachment groups (above and below the median) sampled at the man-made attraction but no significant difference at the natural attraction. This difference indicated that the nature of attractions was involved in discriminating place attachment using personal participation. In addition, it can be noted that, in the t-tests for the remaining behavioural intention related scales such as positive orientation, pro-environmental orientation and social interaction, the effect size of them relating to man-made sample was larger than the effect size of the natural attraction sample. Thus, the type of attractions does link to the influences of place attachment on visitors' behavioural intentions, although to a limited extent.

Overall, the largest magnitude of the difference occurred in scores of pro-environmental orientation for respondents grouped above and below the median in terms of place attachment at the man-made attraction ($\eta^2 = 0.14$). Fourteen per cent of the variance in environment protection was explained by the strength of visitors' place attachment.

4.4.3 Visitor behavioural intention differences – Individual Items

In addition to testing behavioural differences in terms of the inter-correlated scales, individual items were also measured. Table 16 reveals these results.

Table 4.16: t-tests: individual behavioural intention differences

	Behavioural intention scales	Place attachment-below median			Place attachment- above median			t	df	η^2
		N	**Mean**	**SD**	**N**	**Mean**	**SD**			
(a)	I am happy about my decision to visit this attraction.	125	4.06	0.840	228	4.31	0.777	-2.780	351	0.02[*]
(b)	I believe I did the right thing when I chose to visit this attraction.	124	4.02	0.831	228	4.27	0.754	-2.839	350	0.02[*]
(c)	Overall, I am satisfied with my decision to spend my time at this attraction.	125	3.99	0.828	227	4.26	0.787	-3.048	350	0.03[*]
(d)	I will visit this attraction again in the future.	121	3.17	1.220	220	3.73	1.075	-4.435	339	0.05[**]
(e)	I will recommend this attraction to others.	122	3.80	1.012	226	4.22	0.865	-4.085	346	0.05[**]
(f)	I don't mind spending more money at the attraction if necessary.	123	2.85	1.255	224	3.50	1.100	-5.074	345	0.07[**]
(g)	I feel pleased when I participate in the events or activities (e.g. feeding animals) at this attraction.	93	3.47	0.951	192	3.95	0.804	-4.150	157.652	0.06[**]
(h)	Participating in these events/activities (e.g. feeding animals) interests me.	102	3.59	0.979	206	3.84	0.841	-2.265	176.764	0.02[*]
(i)	I prefer there to be more events or activities at the attraction.	115	3.50	1.173	222	3.42	1.085	0.599	335	
(j)	I prefer to visit this attraction with people who are important to me.	122	3.66	1.066	222	3.98	0.892	-2.872	214.651	0.02[*]
(k)	I would like to talk to other visitors.	122	3.03	0.987	221	3.30	0.921	-2.537	341	0.02[*]

(l)	I would like to talk to staff working at the attraction.	122	3.54	0.835	225	3.70	0.838	-1.666	345	
(m)	I would like to talk to the local residents.	119	3.04	0.951	215	3.40	0.890	-3.391	332	0.03[**]
(n)	I tried to learn what I can do to help solve environmental issues at the attraction.	120	2.75	1.161	216	3.26	1.064	-4.067	334	0.05[**]
(o)	I talked with others about environmental issues at the attraction.	111	2.19	1.116	201	2.79	1.000	-4.842	310	0.07[**]
(p)	I tried to convince friends/relatives/other visitors to act responsibly at the attraction.	111	2.95	1.306	203	3.34	1.057	-2.727	189.592	0.02[*]
(q)	I sorted my rubbish to separate non-recyclable from recyclable material at the attraction.	105	3.80	1.164	194	3.91	0.988	-0.801	185.737	
(r)	I conserved water as much as I could at the attraction.	102	3.58	1.181	201	3.84	0.963	-1.903	170.872	
(s)	The facilities at the attraction are satisfactory.	120	3.86	0.813	220	4.04	0.778	-2.035	338	0.01[*]
(t)	I feel people at the attraction are friendly.	123	3.98	0.910	225	4.20	0.758	-2.506	346	0.02[*]
(u)	Overall, the attraction is a pleasant place.	124	4.06	0.849	224	4.34	0.752	-3.207	346	0.03[**]

[*]$p<0.05$. [**]$p<0.001$

If assuming an extreme visitor, whose place attachment level is above the median, demonstrates all behavioural intentions that are deemed associated with place attachment, the description of his/her behaviours could be: he felt strongly attached towards the attraction; he was satisfied with his trip; he would recommend the place to others; he wanted to re-visit the attraction and would be willing to spend more during the future trips; he would participate in the events and activities held at the attraction although it did not matter if there were more of them; he would spend the journey with someone who was important to him; he would also actively communicate with other visitors as well as nearby local residents; he would attempt to protect the attraction environment in terms of certain behaviours; and he undoubtedly had a good overall impression of the attraction.

4.5   Other analysis

4.5.1   Correlation

The Pearson *r* correlation coefficient measurement centres on whether there exists a linear relationship between two measured variables, and if so, *r* is used to express the strength of the relationship (Cooper & Schindler 2008). Normally, *r* ranges inclusively from -1, a perfect negative linear correlation, to +1, a perfect positive linear correlation.

This study conducted Pearson correlations to examine whether the links observed between place attachment and visitor behavioural intentions factors were linear relationships. There are several underlying assumptions for Pearson correlation: (1) data must be collected from related pairs; (2) data should be interval or ratio in nature; (3) the scores for each variable were normally distributed; (4) the relationships between the variables are linear; and (5) the homogeneity of variance is guaranteed (Coakes & Ong 2011). The first two assumptions were met by the study; the last two assumptions can be assessed and approved by inspecting the SPSS outputs. In relation to assumption three, the normality of the place attachment and visitor behavioural intention scales in terms of the skewness and kurtosis was tested. The outputs showed that both kurtosis and skewness values of the assessed scales did not exceed the specified critical value of ±2.58[17] (See Appendix D), which means their score distributions can be seen as normal (Hair et al. 2010). Assumption three was therefore satisfied.

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[17] ±2.58 corresponding to 0.01 significance level; or ±1.96 corresponding to a 0.05 error level.

The results which met the significance test criterion (*p* value less than 0.05) are reported below:

- Place attachment and positive orientation – r=0.40 (p<0.001)
- Place attachment and pro-environmental behaviour – r=0.24 (p<0.001)
- Place attachment and pro-environmental orientation – r=0.32 (p<0.001)
- Place attachment and personal participation – r=0.29 (p<0.001)
- Place attachment and social interaction – r=0.22 (p<0.001)

Based on Cohen's (1988) guidelines, the absolute value of *r* less than 0.1 means that the association is trivial; a correlation between 0.1 and 0.3 means the association is small (1%~8% of the variance is shared); a correlation r between 0.3 to 0.5 means the association is medium (9%~25% of the variance is shared); a correlation *r* greater than 0.5 responds to large effect size (above 25% of the variance is shared).

According to the guidelines, the above correlation results suggest the positive correlation between place attachment and positive orientation and place attachment and pro-environmental orientation are of medium strength, and there are small positive correlations between the remaining pairs of variables. When visitors' levels of place attachment increase or decrease in value, their assessed behavioural intentions also increase or decrease in value. Similarly, when the change in the latter variables occurs, visitors' place attachment also changes in value. However, the correlation output does not imply any causal relationships.

4.5.2 Chi-square analysis

The chi-square (χ^2) test measures whether the frequencies of cases that fall within each category of a variable are consistent with the frequencies specified under the null hypothesis (Yockey 2011). In this study, chi-square was used to assess if perceived level of place attachment varies by type of travel partners, age group, highest education level completed, visitor type, length of trip and past experience for which memories have been triggered by visiting the attractions under study.

In this section, age was categorised as: 18-29 years old, 30-39 years old, 40-49 years old, 50-59 years old and 60+ years old. Highest educational level completed was grouped as: secondary school, tertiary/TAFE, postgraduate, and others. Travel partners were classified as: travelling alone, travelling with friends, travelling with family members, travelling with colleagues and travelling with others.

Results showed that there was no significant differences between the expected distribution based on the null hypothesis and the observed distributions of data among categories in types of travel partners, age group, highest education level completed, visitor type, length of trip, and whether visitors have heard of the site before or recalled any previous trips to the studied attraction, similar to the results of t-tests presented in Section 4.4.1. However, the differences for the remaining variables were deemed significant.

In examining the observed cell frequencies, the proportion of participants who recalled their childhood experience and whose place attachment were above median is higher than those who did not recall any childhood experience. The difference in proportions is significant. Participants who recalled a previous childhood experience were more likely to feel highly attached to the attractions than those who did not: χ^2 (1, N=331) = 4.52, p< 0.05. Similarly, participants who had recalled their previous trips to similar attractions, in comparison with those who did not, appeared more frequently in the group with place attachment above median: χ^2 (1, N=324) = 4.14, p< 0.05.

Morgan (2010) proposed that people's childhood experience is crucial in establishing a place attachment system which influences their attachments to different place settings. The findings presented in this section supported Morgan's work. It is interesting to note that although repeat visitors did not show a significant higher level of place attachment, they are more likely to recall their childhood experience than first time visitors. Among those who revisited the attraction, the percentage of visitors who recalled their childhood was 61.3%, in comparison with the percentage of those who first visited the attraction (41.0%). The difference is significant based on chi square testing: χ^2 (1, N=385) = 13.89, p<0.000. Therefore, repeat visitation might influence visitors' place attachment through enhancing the links between visitors' childhood experience and the places they visit.

To explain why recalling previous trips to similar attractions rather than recalling previous trips to the studied attraction may make a difference in visitors' current place attachment levels, the study of Williams et al. (1992) regarding the difference between attachment to a specific place and to a type of place can be consulted. In their study, the predictors of visitors' attachment towards a specific attraction and a type or class of attractions appeared to be different. The specific experience to one site may influence consequent experiences to the same site to a limited extent, whereas people's place

attachment to a class of similar attractions is linked to both site-specific and in the case of Williams et al.'s study, general wilderness experiences. In other words, visitors' general attachment to a class of attractions which share similar features, such as a group of natural attractions, can extend to a specific site within the class. Thus the recall of experiences at similar attractions enhanced visitors' place attachment in the current study.

Combining these results, it can be concluded that the recall of childhood experience or previous trips to similar attractions triggered by on-site experiences is likely to increase the likelihood of participants being place attached to the attraction. At the same time, the strength of place attachment did not differ by visitors' demographic characteristics and their trip patterns as well as by whether they recalled any past experience of the current attraction, and if they had heard of the attraction before.

4.6   Integration of the findings

The preceding sections in this chapter have presented the outcomes of a number of analyses used in the study in conjunction with interpretation and discussion of the results. Three related research questions were put forwarded earlier in Section 3.2 to address the overarching research question. The analyses presented in this chapter attempts to answer the overarching question by addressing three related questions in turn, with reference to Table 3.2.

Q1 regarding the extent of visitors' place attachment towards attractions has been discussed in Section 4.3.1. It can be seen that the magnitude of visitors' place attachment to tourism attractions is comparable to that of visitors' place attachment towards destinations reported in previous studies. It was also suggested that even though the time spent at the attraction is limited, a neutral sense of attachment at a neutral level can still be formed by visitors.

Based on the analyses regarding Q2 whether visitors' place attachment levels vary for different types of attractions, different types of visitors and different trip characteristics, almost all variables assessed showed no influence on place attachment levels (Section 4.4.1). The only exception was visitors' past experience in terms of visitors' recall of childhood experiences and previous trips to similar attractions triggered by their current visit to the attractions under study (Section 4.5.2). In other words, visitors will feel place attached to tourism attractions regardless of their genders, ages, highest education

levels, nationalities, the trip patterns, and the attraction types, but the magnitude of place attachment can be enhanced if their visits make them recall their childhood experience or previous trips to similar attractions.

Q3 asked about what is the association between visitors' place attachment levels and their behavioural intentions at tourism attractions. Five behavioural intention factors were generated in the process: positive orientation, pro-environmental orientation, pro-environmental behaviour, personal participation, and social interaction. The results of t-tests and correlations indicated that tentative associations do exist (Section 4.3.2, Section 4.3.3 and Section 4.5.1). Briefly, people with higher levels of place attachment were more likely to have more positive attitudes in relation to the behavioural intentions studied, indicating they are more likely to revisit the attractions, recommend the attractions to others, be concerned about the environment and perform pro-environmental behaviours. Place attached visitors are also willing to interact with local residents, staff working at the attractions and other visitors, as well as participate in onsite events and activities.

Overall, the answer to the overarching research question of whether visitors' place attachment at the attraction level can explain their behavioural intentions in tourism attractions is supported by the results presented in this chapter. It was found that visitors do experience place attachments towards the attractions they visit, and the attachments developed are associated with a number of visitors' behavioural intentions. Visitors' place attachment formed at the attraction can explain their positive behavioural intentions.

4.7   Chapter summary

In considering the research question of whether visitors' place attachment at the attraction level can explain their associated behaviours in tourism attractions, this chapter presented detailed results and discussions. Place attachment was shown to be associated with certain visitors' behavioural intentions, regardless of the nature of attractions or visitors' demographic variables. The next chapter provides conclusions to these findings through further discussing them in light of the research question, literature and practical implications of the study. The limitations of this study and a future research agenda are also be discussed.

Chapter 5 Conclusion

5.1 Overview of the study

It has been suggested that place attachment in relation to tourism settings should receive more attention by tourism researchers (Marles & Watkins 2003), especially given that the concept of place attachment has the ability to explain people's behavioural intentions in their interactions with places as a result of affection (Lewicka 2011). Whilst residents' place attachment has been studied in depth at different spatial levels (e.g., home, neighbourhood and city) and in different types of communities (e.g., tourism-dependent communities), to the very best of the researcher's knowledge, there are only limited studies on visitors' place attachment in tourism settings and most of them have focused on the destination level (Lee 2001; Yuksel, Yuksel & Bilim 2010).

As visitors are motivated by different reasons to visit a tourism destination and interact with tourism settings for short periods of time, their emotional attachment triggered by their visit is unique, distinct from people's attachment to their familiar residential places (Lewicka 2011). Tourism attractions are destination flagships and provide key reasons for visitors initiating tourism trips; this study thus put its efforts towards understanding visitors' place attachment at the attraction level. Specifically, it aimed to address the overarching research question of whether visitors' place attachment at the attraction level can explain their associated behaviours in tourism attractions.

The literature review in Chapter Two presented three challenges associated with place attachment research: the confusion of conceptual terms; the variety of measurement tools; and the lack of theoretical grounding (Lewicka 2011). Against this background, the current research adopted behavioural intention variables discussed in existing place attachment studies (e.g., Vaske & Kobrin 2001; Yuksel, Yuksel & Bilim 2010) and assessed these variables at the attraction level, to determine whether place attachment can also apply to visitors' experiences at tourism attractions. A quantitative approach was chosen which enabled access to a comparatively large visitor sample and statistical analyses on the data. The specific methods this study used and the results were presented and discussed respectively in Chapters Three and Four.

This concluding chapter provides an overall review of the study's findings and

elaborates on the implications of the research, together with its associated limitations. Suggestions for future place attachment research in tourism settings are also detailed.

5.2 Key findings

The findings in the current study provide exploratory support for the overarching research question and three related research questions: (i) to what extent are visitors place attached to tourism attractions? (ii) Do place attachment levels vary for different types of attractions, different types of visitors, and different trip characteristics? and (iii) What is the association between visitors' place attachment levels and their behavioural intentions in tourism attraction settings?

Major findings of the current exploratory study are:

- Visitors appear to be place attached to the narrower scope of tourism settings – individual tourism attractions at a neutral level.

- The extent of visitors' place attachment perceived at the tourism attractions was comparable to levels reported in previous studies focusd on destinations.

- No differences were found between natural and man-made attractions in terms of visitors' place attachment.

- The level of visitors' place attachment did not vary according to their demographic characteristics.

- The level of visitors' place attachment was influenced by visitors' previous experiences, not by current trip patterns.

- Higher place attachment was associated with more positive tourist behavioural intentions. The association is stronger in relation to man-made attraction setting than natural attraction setting.

5.2.1 The extent of place attachment to tourism attractions

In addressing question one, the present study found that respondents showed a neutral level of place attachment towards the attractions they visited, which is comparable to levels of visitors' place attachment towards tourism destinations as noted in previous studies (e.g., Bricker & Kerstetter 2000; Hwang et al. 2005).

This finding empirically supports the idea that tourists can feel emotional attachment to

tourism attractions. In the present study, place attached visitors were characterised in respect of: (i) feeling a special connection to the visited attraction and to the people who visit there; (ii) considering that the attraction means a lot to them; (iii) getting more satisfaction out of visiting the specific attraction than other similar attractions; and (iv) having an unwillingness to substitute other similar attractions for the attraction visited. It can be seen that place attached visitors share similar emotions and perceptions akin to those of local residents, which implies an intimate relationship based on the theory of emotional solidarity (Woosnam & Norman 2009). The intimate relationship may lead to positive attitudes of local residents towards tourists and tourism development (Butler 1980). As a result, tourism attractions that attract more prior attached visitors will receive greater support from those visitors who are more willing to protect attraction environment by demonstrating pro-environmental behaviours, thereby obtaining more support from the local community if intimate relationships occur between place attached visitors and local people. Overall, the observed visitors' place attachment implies the potential of engaged visitors to play a contributing role in sustainable tourism development.

Interestingly, there were no significant differences witnessed in the place attachment levels of respondents visiting the natural and man-made attractions. This finding is of note given much more attention in place attachment research has been afforded to natural settings (*cf.* Section 2.3.4). How people endow important meanings to nature as a whole or nearby natural environments and feel personal bonds or attachments has been an intensive focus of studies in both tourism (Hwang, Lee & Chen 2005) and other academic disciplines such as environmental psychology (Halpenny 2010; Williams & Vaske 2003) and landscape geography (Brown, G & Raymond 2007), whilst man-made settings have only been studied in very few recreation or tourism journal articles (Moore, Roger L. & Graefe 1994). Visitors on this basis were reasonably expected to feel place attached to natural settings, and this attachment was anticipated to be stronger and deeper than that which might be reasonably expected towards man-made settings. However, the finding of the current study reveals a different outcome: visitors' place attachments to natural and man-made attractions are comparable, in fact the man-made attraction sample (Mean=3.12, SD=0.67) indicated a slightly higher level of place attachment than the natural attraction sample (Mean=3.08, SD=0.69).

How visitors endow different places with different meanings and values may assist in

understanding this finding. Detailed in Section 2.3.3, it was suggested that in the tourism context, the meanings and values of tourism settings are the magnets which cause visitors to think of a place as special and feel attached (Lewicka 2010). These may include the physical setting, wildlife viewing, a personal emotional connection, outdoor recreation, social ties, special "first time" moments, tradition or time, undeveloped nature, getting away, inspiration, peaceful, home, solitude, good lodging or food, cultural or historical importance as identified by respondents in Smaldone et al.'s (2005) study in relation to natural parks. Aesthetics, recreation, future, heritage, wilderness, biological diversity, therapeutic, economic, life sustaining, intrinsic, knowledge and spiritual were identified as landscape values in Brown and Raymond's study (2007). In these example studies, both nature and culture/history are raised as meanings that can make people feel attached. As such, place attachment can be triggered by both natural and cultural/historical meanings, which are respectively the central attractive features of natural and man-made attractions. In the context of tourism visitors driven by different motivations are freer to choose places to visit. Future research is required to determine whether they are likely to travel to places with meanings associated with their particular motivations.

Given so, man-made attractions have the same capacity to engender place attachment as natural attractions do and an understanding of visitor place attachment is useful in both settings. This finding is important to evoke the need to re-assess our assumptions regarding visitors' place attachment system and allocate equal attention to man-made settings in the tourism context. It also begs the question for future research of whether visitors are consciously aware of theses meanings and how they drive place choice.

Another important finding is that the degree of place attachment observed at the attraction level is comparable to reported degrees of visitors' place attachment towards tourism destinations in the previous studies (e.g., Bricker & Kerstetter 2000; Hwang et al. 2005). In Hernández et al.'s (2007) study, people's place attachment was compared at the spatial levels of neighbourhood, city and island. The findings suggested that for local residents, attachment to their neighbourhood was significantly lower than attachment to the city and to the island where they resided; for new immigrants, the difference between spatial levels was less noticeable and non-significant. Hernández et al. went on to suggest that narrower spatial levels of place settings represent greater mobility and less stability and symbolism, therefore people regard them as less

important in terms of attachment. Leading on from Hernández et al.'s (2007) findings, there was a reasonable expectation that the current study would report lower levels of place attachment towards attractions compared to previous studies that have examined the concept at destination level. The similarity between place attachment strength at attraction level as found by the current study supports comparable degrees of place attachment across different tourism settings. One possible explanation for this is that in the context of tourism, the stability and mobility of places might not be as evident to visitors compared to local residents. In other words, given their shorter interactions with place, they do not distinguish between spatial levels such as destination versus attraction in terms of stability and symbolism.

In summary, attractions are part of a destination geographically, or in space; however, visitors' attachment towards specific attractions cannot be simply viewed as part of their attachment towards the destination as a whole. Although the relationship between attachment to destinations and attractions is not clear, and is beyond the scope of the current study, these exploratory findings confirms the necessity of paying attention to the narrower spatial levels of tourism settings, other than the holistic destination perspective.

5.2.2 Impacts of visitors' demographic and trip characteristics

In response to related question two, the strength level of place attachment in the current study did not vary on the basis of visitors' demographic characteristics (age, gender, nationality, origin place, and education level) and trip characteristics (travel alone or with others, day-trip or 2+ days trip, first visit or repeat visit). Among these variables, some characteristics were expected to influence place attachment more strongly, for example, nationality and visiting length, but the results did not confirm these expected patterns with respect to tourism attractions.

Cultural background and ethnic background are recognised as important in the formation of place attachment through shared collective memories (Hou et al. 2005; Johnson 1998). Gross and Brown (2006) suggest that nationality has a similar effect in relation to place attachment. However, in the current study, there were no significant differences between the place attachment levels of Australians and people of other nationalities visiting the attractions.

Similarly, time spent at the attraction, examined in the forms of first visit or re-visit and

day trips or overnight stay trips, did not make a discernible difference to place attachment levels. A classical view in place attachment research is that time is essential in the formation of people-place relationships and a predictor of place attachment (e.g., Tuan 1975). Only a long enough stay in a place is thought to trigger people's place attachment to a place; the longer people interact, the stronger their place attachment will be to a particular place. Nevertheless, in this study the majority of interactions between visitors and the studied attractions were comparatively short (69.0% of respondents indicated day-trips and 14.9% indicated trip with overnight stay), and participants who indicated a longer stay or a repeat visit did not show significantly higher levels of attachment. This suggests that length of time, in term of continuous stay or continual visits, is not a predictor of place attachment in relation to tourism attractions.

However, previous literature provides another possible explanation of this finding: (i) in the very early stage of people's interactions with a place, time influences place attachment formation only to a negligible extent; and (ii) in the later stages, the influence of time or the intensity of experience at the place becomes more salient (Stedman 2006). Following this assumption, the current study has provided evidence to the first assertion, as the majority of visitors approached in this study interacted with the attractions at the early stage. There may be a difference between first visit/infrequent repeat visitation and frequent repeat visitation, or short term trips and longer term trips of more than month long stay, which this study is incapable of examining. As what Marles and Watkins (2003) suggested in their conference paper, attention should be paid to distinguishing infrequent repeat visitation and frequent repeat visitation rather than first time and repeat visitation; a frequent repeat visitor may develop higher attachment than those first time or first repeat visitors. Further research adopting a longitudinal method may confirm the relationship between time and place attachment formation in tourism settings.

After excluding all the other demographic and trip characteristics, what makes visitors' place attachment different at the early period of interaction becomes very interesting. This study found that only childhood memories and past experiences of similar attractions triggered by the visit discriminated between the degrees of place attachment experienced by visitors, which empirically supports Morgan's theory (2010) that childhood is a key determinant of people's place attachment system. Visitors whose visit to an attraction triggers their childhood memories or experiences visiting similar types

of attractions are more likely to feel a sense of attachment to the current attraction. This finding may apply primarily to the early stage of a visitor's interaction with an attraction.

5.2.3 Place attachment and associated visitor behavioural intentions

Finally, in relation to the third related question, place attachment was found to be associated with various visitor behavioural intentions. The greater the visitors' place attachment level, the more positive and active visitors were in regards to their behavioural intentions, which is in line with previous place attachment studies in tourism suggesting visitors' place attachment is associated with positive visitor behavioural intentions (e.g,. Tsai 2011, Scannell & Gifford 2010b).

This study assessed a number of visitors' behavioural intentions. Among them, satisfaction, spending and repeat visitation are common in consumer behaviour studies (Heitmann 2011). Other behavioural intentions tested in this study, including environmental perception, activity involvement, social interaction, and pro-environmental behavioural intention, stem from place attachment studies (e.g., Gross & Brown 2008; Mesch & Manor 1998; Scannell & Gifford 2010b).

In the current study, positive behavioural intentions associated with place attachment included: greater trip satisfaction; greater re-visit intentions; willingness to recommend the attraction to others; willingness to spend more at the attraction in the future; active consideration of on-site environmental issues; participation in on-site activities and events; and the greater likelihood of socialising with people at the attraction. Satisfied visitors were different from attached visitors, but they shared many similar positive patterns in their behaviours. In this study, there were clear associations between place attachment and all of these behavioural intentions, which implies that the complexity of visitors' behaviours should be studied using multiple approaches in addition to consumer behaviour. Place attachment, as a psychological approach, provides a perspective to understand visitors' behaviours at an emotional level.

The strength of the associations varied according to the nature of the attractions. In the case of the man-made attraction, visitors' intentions to participate in on-site events and activities were more strongly associated with their levels of place attachment. This may be because man-made attractions normally have more flexibility to organise a variety of on-site experiences (Cooper et al. 2005). Yet, the insignificant difference among place

attachment for activity participation intention at the natural attraction may be misleading. The result may be because of the natural attraction studied which provides very limited activities for visitors to participate except sightseeing. Previous research studying hikers' place attachment towards natural hiking trails (Kyle et al. 2004a) indicated a strong link between place attachment and activity involvement. In combination with Kyle et al.'s results, it is prudent to conclude that attractions providing opportunities for visitors to participate in onsite events or activities may witness a stronger association between visitors' place attachment and their activity participation intentions, regardless of whether the attraction is natural or man-made.

As demonstrated by this exploratory study, place attached visitors can be a better type of visitor, who take on responsibility to learn about the visited place, demonstrate pro-environmental behaviours, meet and form friendships with local people, and who are more willing to contribute to the local economy (Pearce 2005). By investigating high place attached visitors, the social role of visitors can also be understood.

5.3 Implications of the research

The current study found that visitors' emotional attachment could assist in understanding visitors' behavioural intentions at the attraction level. Following an extensive literature review of place attachment studies in different disciplines, the research has integrated the foci and challenges in the place attachment research and provided a thorough discussion of current place attachment studies in tourism context. By examining visitors' place attachment at the attraction level, it contributes to the application of the concept of place attachment to areas other than permanent residences, and enriches the knowledge about people-place relationships in tourism contexts.

Specifically, the findings in the current study support that visitors can and do feel place attached to tourism settings at attraction level akin to previous studies that have assessed the concept purely at destination level, without discriminating between natural or man-made attraction types. As a result, the current study implies that instead of limiting place attachment in natural environments or destinations, an equal level of attention should be paid to the narrower scope of tourism places and the built environment. Additionally, the current study empirically supported Morgan's view (2010) that people's childhood experiences with place significantly influence their place attachment system after they grow up.

The practical implications of this study are to provide tourism managers and attraction operators with an awareness of visitors' emotional place attachment and an understanding of how attachment is differentially associated with tourist behavioural intentions. According to the research findings, visitors' place attachment is associated with a number of positive visitor behavioural intentions. It is obvious that place attached visitors are a better type of visitor and should be targeted through marketing. Tourism attraction operators should incorporate strategies which can evoke, maintain and enhance visitors' place attachment in their attraction development plans.

Place attachment levels are not affected by visitors' trip patterns and demographic variables, except for visitors' childhood experiences and previous travelling experiences. To take advantage of this finding, attraction managers can cooperate with similar type of attractions to promote their products as a distinct class of tourism resources to predispose place attached visitors. The cooperating attractions can also provide joint membership opportunities for these visitors, such as multiple museum memberships, zoo memberships, or park memberships etc. Visitor loyalty rewards may also be included in attraction development plan, such as a reduction in annual membership fee for loyal customers, special functions for members and their families, and campaigning opportunities that target recall of past experience associated with the attraction or similar attractions. By strengthening their connection to a particular type of attractions, visitors' place attachment may also be enhanced.

In addition, attractions can create facilities and activities for children to attract family visitors, and provide on-site venues for them to celebrate important days (e.g., birthdays) and photos opportunities so they can establish positive memories. Such facilities and activities should help to cultivate children's early attachments to particular attractions. Special events such as "family days" or "children's days" may also encourage family visitation and provide opportunities for children to make new friends. Future empirical research is still needed to establish a clear link between positive or negative childhood experiences and place attachment, yet the importance of childhood experience in place attachment development is recognised.

Furthermore, the attractions can market themselves as environmentally friendly places, and provide more opportunity for visitors to socialise with friendly local residents and other visitors, as well as to participate in more activities and events at the attractions. These would potentially enhance visitors' levels of place attachment on an ongoing

basis. Overall, tourism attraction managers should make efforts to attract place attached visitors and inspire on-site visitor attachment. The application of this knowledge extends not only to natural attractions but also man-made attractions.

On the other hand, given that visitors appear to develop attachments to attractions, managers need to realise that in conducting major overhauls to the attraction itself, it may result in negative emotional responses from repeat visitors. This is determined by the nature of place attachment that once formed, people-place bonds threatened by changes or loss of the attached place, will result in negative reactions (Giuliani 2003). Therefore, well planned, informed, and gradual changes to tourism attractions are advised.

5.4 Limitations

To comprehensively understand the present study and its implications, it is important to acknowledge its limitations. This study collected data at two attractions using a convenience sampling technique. In Chapter Three, the rationale for convenience sampling was explained in terms of the unknown of the population visiting the studied attractions. Visitor Information Centres (VIC) were deemed inappropriate to collect data from, because visitors likely attending VICs maybe new arrivals to a destination, who may not have yet undertaken the opportunity to visit the attractions under study and generate place attachment (Gross & Brown 2006). The current study aimed to assess both international visitors and domestic visitors, which means the postal method was not applicable; therefore, an on-site survey with convenience sampling was the only practical way to enable data collection. It is acknowledged that based on this selection of sampling method, no generalisation from the study beyond the specific sample should be made (Hair et al. 2007; Zikmund et al. 2010).

As a cross-sectional study, the current study collected data over a short period of time, rather than at multiple points over a longer time period. It has only contributed to understanding of visitors' place attachment at a given point of time. The data cannot empirically demonstrate how place attachment changes over time. It thus lacks the ability to establish causal relationships between place attachment and visitors' behavioural intentions. Despite these limitations, the current study denotes whether these associations exist and provides an important snapshot of visitors' place attachment towards tourism attractions.

Furthermore, the researcher only obtained survey approvals from two attractions, one natural attraction and one man-made attraction. Therefore the comparison results between the studied attractions cannot be generalised, with the potential that visitors' place attachment is only associated with the particular features of the studied attractions, and is not indicative of natural and man-made attractions generally. For instance, in this study, individual activity participation was observed to be associated with place attachment only at the man-made attraction Sovereign Hill. This could be related to the contention that the Sovereign Hill operator offers a number of activities whilst the natural attraction, Phillip Island Nature Park, did not. Additionally, the questionnaire developed in this study did not incorporate specialised questions in relation to each attraction. Using the same questionnaire at two attractions better supports the coding of the variables and follow-up statistical analyses between studied attractions, but it may have reduced the precision of information that participants provided to some of the questions. For example, the open-ended question regarding visitors' experience of participating in on-site activities (Q9) did not gain as much useful information from the natural attraction sample, as the example given in the question only applied to the man-made attraction.

5.5   Suggestions for future research

Following the discussion of study limitations, it can be suggested that future research might apply longitudinal designs to establish causal relationships between visitors' place attachment and associated variables in the attraction settings. By doing so, a clearer picture of the antecedents and outcomes of place attachment would emerge, in which place attachment can be located more precisely within visitors' behavioural intentions and perceptions triggered by a visit experience. Concurrently, employing probability sampling techniques to assess on-site visitors' place attachment and associated variables should also be considered, allowing future studies to generalise their findings beyond the immediate sample.

In addition, as the current study collected its data at one man-made attraction and one natural attraction, more sites and attractions should be included in further place attachment studies, to enhance understanding of place attachment at the attraction level. According to Chapter Two, Section 2.3.4, different scales of place settings (e.g., neighbourhood, city and island in the study conducted by Hernández et al. in 2007) are

likely to impact on people's sense of place attachment. Therefore it would be an interesting research topic to simultaneously assess visitors' place attachment experienced at different spatial levels in tourism, such as an attraction, a destination, a region, and a country, and to compare between attractions in the same or different destinations. To replicate place attachment studies among different tourism attractions, the place attachment scale used in this study (Kyle et al. 2005) can be better validated and specifically modified for use in the tourism context, which may compensate for the current lack of place attachment frameworks in tourism.

Lastly, there is a need for a comprehensive place attachment theory specifically developed for tourism contexts to guide further in-depth understanding of visitor place attachment formation. The researcher expects that the answers to how visitor place attachment is generated and how it functions and links to visitors' behavioural intentions in relation to different tourism settings will stem from such a theory, which can systematically drive tourism place attachment research and the tourism industry's application of place attachment findings.

Place attachment is a concept describing an inconspicuous connection between people and places, but studies on place attachment have provided clear evidence to its existence and importance. The current study extended place attachment research to examine visitors' attachment at the attraction level, and has attempted to provide an explorative snapshot of place attachment experienced at different attractions. Its findings, despite the limitations and research scope, confirm that attractions have the potential to trigger visitors' affective bonds. The bonds can be used to understand visitors' behavioural intentions at the attraction level. Future research that investigates these tentative links would make a worthwhile contribution to place attachment research in the tourism field.

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Appendix A

NO. SH

Visitor Experience Questionnaire

Thank you for agreeing to be part of a study assessing visitor experience and connected behaviour relating to tourism attractions. Please answer the questions referring to the attraction you are visiting today. Please ✓ or circle one response per item.

SECTION A: YOUR VISIT TO THE ATTRACTION

Q1. Which of the following options best describes your trip to the attraction?

☐ Day trip   ☐ Trip with overnight stay   ☐ Trip with two or more days stay

Q2. Is it your first visit to this attraction?

☐ Yes   (Please go to Q4)   ☐ No   (Please proceed to Q3)   ☐ Unsure   (Please go to Q4)

Q3. How satisfied were you with your last visit to this attraction?

☐ Very dissatisfied   ☐ Dissatisfied   ☐ Neutral   ☐ Satisfied   ☐ Very satisfied

Please tick ✓	Yes	No	N/A
Q4. Have you heard about this attraction before			
Q5. Has this attraction made you think of any of your *childhood experiences*?			
Q6. Has this attraction made you recall any of your *previous trips to this attraction*?			
Q7. Has this attraction made you recall any of your *previous trips to a similar attraction*?			

Q8. Did you participate in any extra activities/events held at the attraction besides sightseeing? (E.g. horse riding)

☐ Yes   (Please proceed to the next question)   ☐ No   (Please go to Q10)

Q9. Please list the activities and indicate how satisfied you were with each activity and the overall experience.

1 = Very dissatisfied; 2 = Dissatisfied; 3 = Neutral; 4 = Satisfied; 5 = Very satisfied

	e.g. Horse riding	1	2	3	4✓	5	N/A
a		1	2	3	4	5	N/A
b		1	2	3	4	5	N/A
c		1	2	3	4	5	N/A
d	Overall experience	1	2	3	4	5	N/A

Q10. Thinking about your visit to the attraction, please indicate to what extent you agree or disagree with each of the following statements.

1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

a	This attraction means a lot to me.	1	2	3	4	5	N/A
b	I feel very strongly attached to the attraction.	1	2	3	4	5	N/A
c	I have a special connection to the attraction.	1	2	3	4	5	N/A
d	I have a special connection to the people who visit here.	1	2	3	4	5	N/A
e	I get more satisfaction out of visiting this attraction than from visiting any other attraction.	1	2	3	4	5	N/A
f	I wouldn't substitute any other attraction for the type of experience I	1	2	3	4	5	N/A

have here.						

Q11. Did you visit this attraction today with anyone else? (Please ✔more than one response if appropriate)

☐ My friends   ☐ My family members   ☐ My colleagues   ☐ Others   ☐ No, I'm alone

Q12. Please tick ✔	Yes	No	Unsure
a. Have you talked to other *visitors* whilst at the attraction?			
b. Did you talk to *staff* working at the attraction?			
c. Did you talk to *local residents* in the community?			

If answered '**No**' or '**Unsure**' to all of above questions (a, b and c), please go to Q14.

If answered '**Yes**' to either of the above questions (a, b or c), please proceed to the next question.

Q13. Thinking about your <u>conversation with others</u> at this attraction, please indicate to what extent you agree or disagree with each of the following statements.

1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

a	I like talking to other *visitors*.	1	2	3	4	5	N/A
b	It was enjoyable to talk to other *visitors* today.	1	2	3	4	5	N/A
c	I like talking to *staff* working at this attraction.	1	2	3	4	5	N/A
d	It was enjoyable to talk to *staff* working at this attraction today.	1	2	3	4	5	N/A
e	I like talking to *local residents*.	1	2	3	4	5	N/A
f	It was enjoyable to talk to *local residents* today.	1	2	3	4	5	N/A

Q14. Thinking about your <u>perception of the environment</u> at the attraction, please indicate to what extent you agree or disagree with each of the following statements.

1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

a	The attraction is too *overdeveloped*.	1	2	3	4	5	N/A
b	This attraction may cause *damage* to the environment.	1	2	3	4	5	N/A
c	I have seen *litter* at the attraction.	1	2	3	4	5	N/A
d	Too many spaces are *overcrowded*.	1	2	3	4	5	N/A
e	Some visitors were *inconsiderate*.	1	2	3	4	5	N/A

<div align="center">

SECTION B: YOUR INTENTIONS

</div>

Q15. Thinking about your <u>experience and intentions</u> at this attraction, please indicate to what extent you agree or disagree with each of the following statements.

1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree

a	I am happy about my decision to visit this attraction.	1	2	3	4	5	N/A
b	I believe I did the right thing when I chose to visit this attraction.	1	2	3	4	5	N/A
c	Overall, I am satisfied with my decision to spend my time at this attraction.	1	2	3	4	5	N/A
d	I will visit this attraction again in the future.	1	2	3	4	5	N/A
e	I will recommend this attraction to others.	1	2	3	4	5	N/A
f	I don't mind spending more money at the attraction if necessary.	1	2	3	4	5	N/A
g	I feel pleased when I participate in the events or activities (e.g. feeding animals) at this attraction.	1	2	3	4	5	N/A
h	Participating in these events/activities (e.g. feeding animals) interests me.	1	2	3	4	5	N/A
i	I prefer there to be more events or activities at the attraction.	1	2	3	4	5	N/A
j	I prefer to visit this attraction with people who are important to me.	1	2	3	4	5	N/A
k	I would like to talk to other visitors.	1	2	3	4	5	N/A

l	I would like to talk to staff working at the attraction.	1	2	3	4	5	N/A
m	I would like to talk to the local residents.	1	2	3	4	5	N/A
n	I tried to learn what I can do to help solve environmental issues at the attraction.	1	2	3	4	5	N/A
o	I talked with others about environmental issues at the attraction.	1	2	3	4	5	N/A
p	I tried to convince friends/relatives/other visitors to act responsibly at the attraction.	1	2	3	4	5	N/A
q	I sorted my rubbish to separate non-recyclable from recyclable material at the attraction.	1	2	3	4	5	N/A
r	I conserved water as much as I could at the attraction.	1	2	3	4	5	N/A
s	The facilities at the attraction are satisfactory.	1	2	3	4	5	N/A
t	I feel people at the attraction are friendly.	1	2	3	4	5	N/A
u	Overall, the attraction is a pleasant place.	1	2	3	4	5	N/A

Section C: Respondent profile

Q16. What is your gender?

☐ Male   ☐ Female

Q17. What is your age group?

☐ 18-29 years   ☐ 30-39 years   ☐ 40-49 years   ☐ 50-59 years

☐ 60+ years

Q18. Which statement best describes your highest level of education?

☐ Secondary school   ☐ Tertiary / TAFE   ☐ Post graduate   ☐ Other

Q19. Visitor type:

☐ Local visitor   ☐ Intra-state visitor (other areas of Victoria)   ☐ Interstate visitor   ☐
International visitor

Q20. What is your nationality?

_____
_____

Q21. What was the main reason for your visit to this attraction today?

_____
_____
_____

THANK YOU FOR TAKING THE TIME TO PARTICIPATE IN THIS STUDY

Appendix B

There were three criteria set to select attractions in Victoria where the respondents would be approached (*cf.* Section 3.6.2):

(i) The attractions selected should be comparatively popular for both domestic and international visitors. This assessment had been made by comparing information from public tourism websites and agencies, e.g., Onlymelbourne.com has a list of Victoria's top 20 attractions on its website.

(ii) Since differentiating levels of visitors' place attachments between different attraction types, namely between natural attractions and man-made attractions, is a key dimension of the research, it was necessary to ensure an equal number of attractions in each classification.

(iii) The researcher approached selected attraction operators to gain their permission to undertake the survey on-site or in the proximity of the tourist site. The selection of attractions was finalised after obtaining these approvals.

According to the first selection criteria, the researcher has compared top attractions listed by different websites below.

Onlymelbourne.com.au - Victoria's top 20 Attractions

1	Federation square
2	Queen Victoria Market
3	Crown Casino
4	Southbank
5	Great Ocean Road
6	Yarra Valley/ Melbourne Zoo
7	Healesville Sanctuary
8	Melbourne Aquarium

9	Phillip Island Penguin Parade
10	Sovereign Hill /Dendenong Ranges
11	Puffing Billy
12	Docklands
13	National Gallery of Victoria
14	Melbourne Museum
15	Melbourne Observation Deck
16	Grampians
17	The Arts Centre
18	Mornington Peninsula
19	The Snowfields
20	Melbourne Cricket Groud (MCG)

visitvictoria.com - Top 10 attractions

1	Melbourne Cricket Groud (MCG)
2	Melbourne Aquarium
3	Federation square
4	Crown Entertainment Complex
5	Eureka Skydeck 88
6	PhilliP Island
7	Great Ocean Road
8	Sovereign Hill
9	Yarra Valley
10	Victoria's Snowfields

Victoria's top attractions

1	Central Deborah Bendigo
2	Crown Entertainment Complex
3	Eureka Skydeck 88
4	Federation Square
5	Flagstaff Hill Maritime Museum Complex
6	Gum San Chinese Heritage Centre
7	Healesville Sanctuary
8	Melbourne Museum
9	Melbourne Aquarium
10	Melbourne Cricket Ground (MCG)
11	Melbourne Zoo
12	Melbourne River Cruises
13	National Gallery of Victoria
14	Old Melbourne Gaol
15	Otway Fly Tree Top Walk
16	Phillip Island Nature Park
17	Port of Echuca
18	Puffing Billy
19	Queen Victoria Market
20	Scienceworks Museum
21	Sovereign Hill
22	The Arts Centre
23	Werribee Park Mansion

24	Werribee Open Range Zoo

Australiansignatures.com - VIC Top 20 Tourist Destinations

1	Federation Square
2	Eureka Skydeck 88
3	Old Melbourne Gaol
4	Scienceworks Museum
5	Otway Fly Tree Top Walk
6	Queen Victoria Market
7	Werribee Park Mansion
8	Lara Downs Mohair, Merinos & More
9	Flagstaff Hill Maritime Museum Complex
10	Great Ocean Road (The Twelve Apostles)
11	Wilsons Promontory Marine National Park
12	Phillip Island Penguin Parade
13	Hanging Rock Recreation Reserve
14	Glenrowan
15	National Holden Motor Museum
16	Puffing Billy Steam Railway
17	Yarra Valley Wineries
18	Healesville Sanctuary
19	Bendigo
20	Sovereign Hill

Besides, some other public tourism websites were also reviewed. The attractions which have repeated most frequently (3+) are presented below:

Man-made attractions	
	Federation Square
	Melbourne Cricket Ground (MCG)
	Queen Victoria Market
	Crown Entertainment Complex
	Puffing Billy Steam Railway
	Eureka Skydeck 88
	Melbourne Aquarium
	Melbourne Zoo
	Yarra Valley
	Sovereign Hill
Natural attractions	
	Great Ocean Road
	Healesville Sanctuary
	Phillip Island Natural Parks (Phillip Island Penguin Parade)

Based on the second and third criterion, two natural attractions and two man-made attractions listed in the above table were approached for permissions. Two of them provided permission to conduct surveys on their premises. One was Phillip Island National Park and the other was Sovereign Hill, which constituted the studied attractions for the current investigation.

Appendix C

INFORMATION

TO PARTICIPANTS

INVOLVED IN RESEARCH

You are invited to participate

You are invited to participate in a research project entitled **Assessing visitors' place attachment and associated intended behaviour related to tourism attractions.** This project is being conducted by a student researcher *Li He* as part of a Masters by Research study at Victoria University under the supervision of *Dr. Leonie Lockstone-Binney* from the Centre for Tourism and Services Research.

Project explanation

We would like to invite you to be a part of a study assessing visitors' place attachment and behaviour relating to tourism attractions in Victoria. Place attachment can be defined as an emotional connection people have to places they live or visit. It is recognised that residents are attached to their community and their place attachment to it does affect their attitudes and behaviours in their neighbourhoods. This research, however, is interested in how visitors' attachment affects their attitudes and behaviours in relation to tourism attractions. This research will generate a greater understanding of place attachment with implications for a better tourism attraction management.

What will I be asked to do?

You are invited to participate in a questionnaire which will take 5 minutes to complete.

What will I gain from participating?

Your participation will contribute to the development of knowledge about place attachment in the context of tourism and also to improving the management of tourist attractions.

How will the information I give be used?

The information that participants provide will be analysed and used to complete a Masters thesis. The information may also be used to develop academic publications. The

information you provide will be kept confidential at all stages of the project. No individual responses will be identified in resulting publications.

What are the potential risks of participating in this project?

There are no expected risks from participation. This is an anonymous survey that does not ask for any identifying information. Please feel free to withdraw from the research at any stage.

How will this project be conducted?

The survey will be conducted at two attractions. This is the stage in which you are being invited to participate.

Who is conducting the study?

The Principal Researcher is Dr Leonie Lockstone-Binney

Contact details: Mail: PO Box 14428 MC Melbourne 8001

Phone: (03) 9919 5361

Email: leonie.lockstone@vu.edu.au

The Student Researcher is Miss. Li He

Contact details: Mail: PO Box 14428 MC Melbourne 8001

Phone: (03) 9919 4133

Email: li.he1@live.vu.edu.au

Any queries about your participation in this project may be directed to the Principal Researcher listed above.

If you have any queries or complaints about the way you have been treated, you may contact the Ethics and Biosafety Coordinator, Victoria University Human Research Ethics Committee, Victoria University, PO Box 14428, Melbourne, VIC, 8001 phone (03) 9919 4148.

Appendix D

Normality of variables

1. Individual items

	N	Mean	SD	Variance	Skewness Statistic	Std. Error	Kurtosis Statistic	Std. Error
Q10a - This attraction means a lot to me.	425	3.58	.862	.744	-.083	.118	-.015	.236
Q10b - I feel very strongly attached to the attraction.	418	3.39	.886	.786	-.211	.119	.269	.238
Q10c - I have a special connection to the attraction.	405	3.00	.963	.928	-.189	.121	.137	.242
Q10d - I have a special connection to the people who visit here.	392	2.78	.973	.947	-.090	.123	-.045	.246
Q10e - I get more satisfaction out of visiting this attraction than from visiting any other attraction.	413	3.08	.937	.877	-.102	.120	-.138	.240
Q10f - I wouldn't substitute any other attraction for the type of experience I have here.	385	3.02	1.052	1.106	.018	.124	-.397	.248
Q14a - The attraction is too overdeveloped.	410	2.19	.962	.926	.709	.121	.313	.240
Q14b - This attraction may cause damage to the envrionement.	407	1.94	.968	.937	1.067	.121	.967	.241
Q14c - I have seen litter at the attraction.	401	2.01	1.097	1.202	.936	.122	.095	.243
Q14d - Too many spaces are overcrowded.	406	2.10	.999	.998	.772	.121	.206	.242
Q14e - Some visitors were inconsiderate.	405	2.56	1.243	1.544	.318	.121	-.956	.242
Q15a - I am happy about my decision to visit this attraction.	419	4.23	.830	.689	-1.131	.119	1.501	.238
Q15b - I believe I did the right thing when I chose to visit this attraction.	416	4.20	.800	.640	-.867	.120	.664	.239
Q15c - Overall, I am satisfied with my decision to spend my time at this attraction.	414	4.18	.818	.668	-.991	.120	1.142	.239
Q15d - I will visit this attraction again in the future.	397	3.55	1.155	1.334	-.398	.122	-.652	.244
Q15e - I will recommend this attraction to others.	413	4.08	.929	.862	-1.024	.120	.908	.240
Q15f - I don't mind spending more money at the attraction if necessary.	409	3.27	1.213	1.472	-.279	.121	-.752	.241
Q15g - I feel plased when I participate in the events or activities (e.g., feeding animals) at this attraction.	328	3.79	.876	.768	-.202	.135	-.475	.268
Q15h - Participating in these events/activities (e.g., feeding animals) interests me.	354	3.78	.895	.801	-.410	.130	-.091	.259
Q15i - I prefer there to be more events or activities at the attraction.	392	3.43	1.140	1.299	-.275	.123	-.574	.246
Q15j - I prefer to visit this attraction with people who are important to me.	399	3.87	.957	.916	-.710	.122	.314	.244
Q15k - I would like to talk to other visitors.	395	3.25	.956	.914	-.292	.123	.159	.245
Q15l - I would like to talk to staff working at the attraction.	400	3.66	.859	.738	-.274	.122	.039	.243
Q15m - I would like to talk to the local residents.	384	3.29	.921	.848	-.222	.125	.307	.248

	N	Mean	SD	Variance	Skewness		Kurtosis	
Q15n - I tried to learn what I can do to help solve environmental issues at the attraction.	390	3.15	1.109	1.231	-.178	.124	-.498	.247
Q15o - I talked with others about environmental issues at the attraction.	361	2.63	1.098	1.206	.149	.128	-.555	.256
Q15p - I tried to convince friends/relatives/other visitors to act responsibly at the attraction.	360	3.22	1.151	1.325	-.228	.129	-.515	.256
Q15q - I sorted my rubbish to separate non-recyclable from recyclable material at the attraction.	350	3.88	1.030	1.061	-.808	.130	.293	.260
Q15r - I conserved water as much as I could at the attraction.	354	3.77	1.016	1.032	-.735	.130	.207	.259
Q15s - The facilities at the attraction are satisfactory.	401	3.99	.791	.625	-.654	.122	.595	.243
Q15t - I feel people at the attraction are friendly.	411	4.13	.812	.659	-.955	.120	1.341	.240
Q15u - Overall, the attraction is a pleasant place.	411	4.24	.798	.637	-1.155	.120	1.903	.240

2. Scales
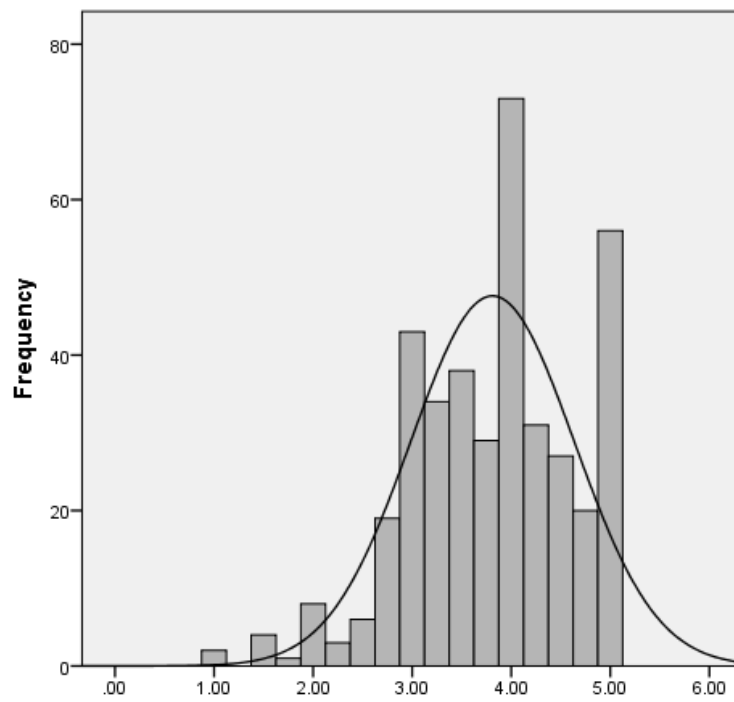
1). Place attachment scale
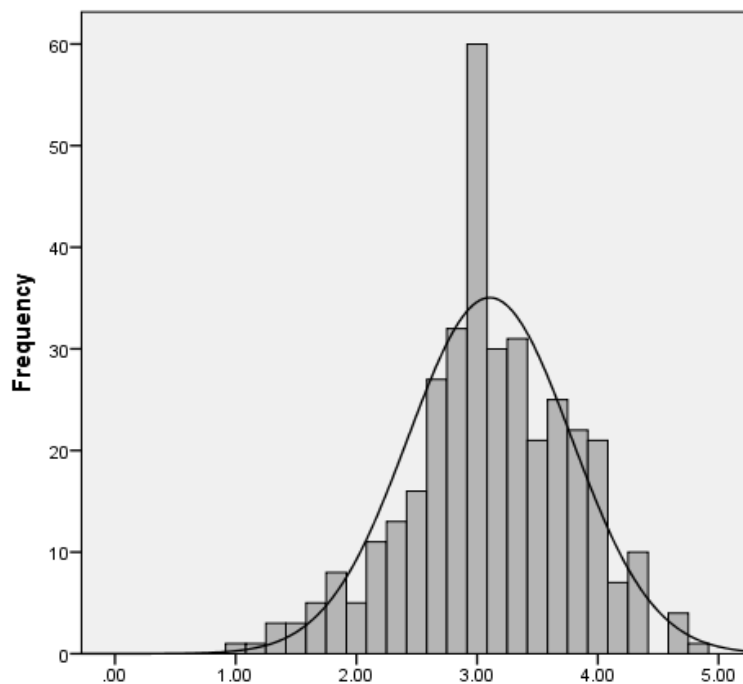
N = 357

Mean = 3.11

SD = 0.677

Skewness = -0.256

Kurtosis = 0.185

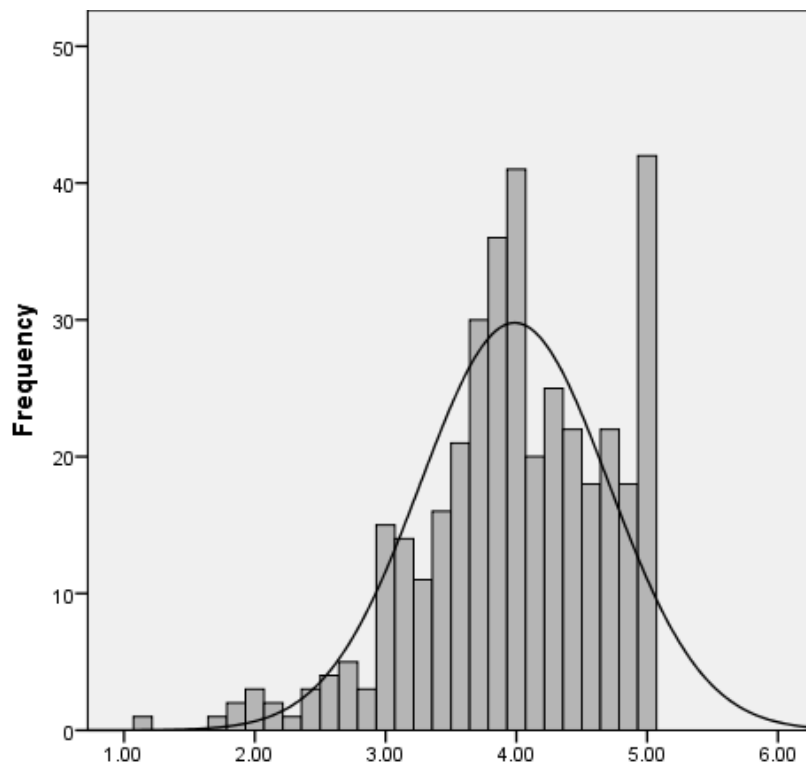**2). Environmental perception scale**

N = 394

Mean = 3.81

SD = 0.825

Skewness = -0.476

Kurtosis = 0.094

3). Positive orientation scale
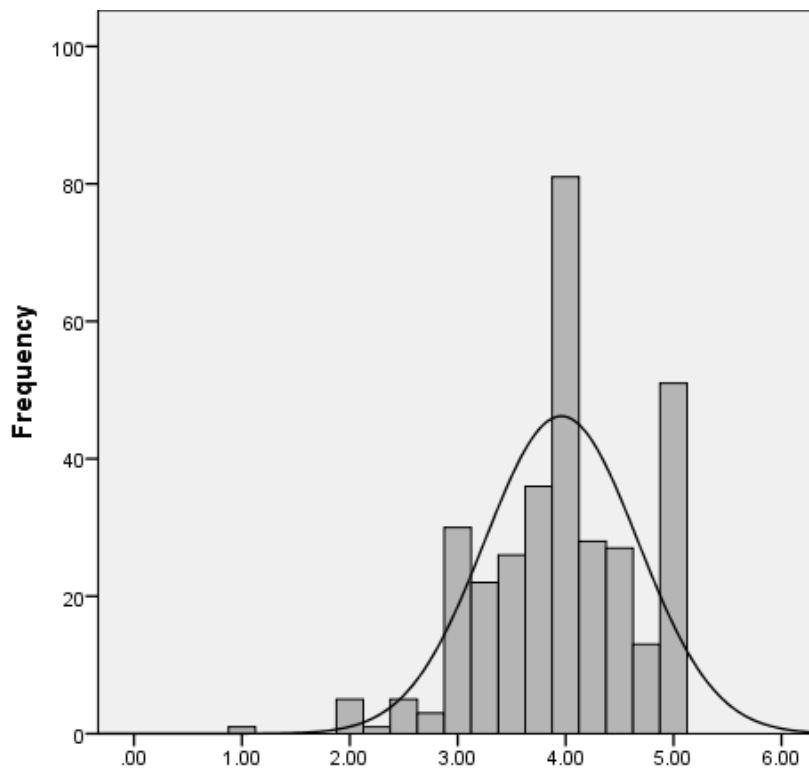

N = 376

Mean = 3.99

SD = 0.719

Skewness = -0.674

Kurtosis = 0.551

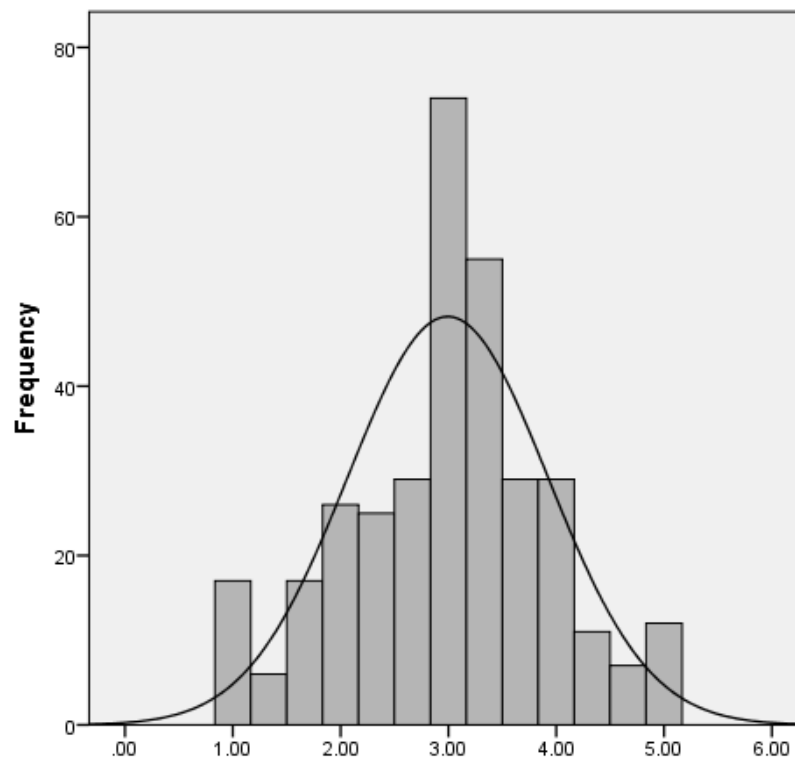## 4. Pro-environmental behaviour scale

N = 329

Mean = 3.96

SD = 0.710

Skewness = -0.496

Kurtosis = 0.485

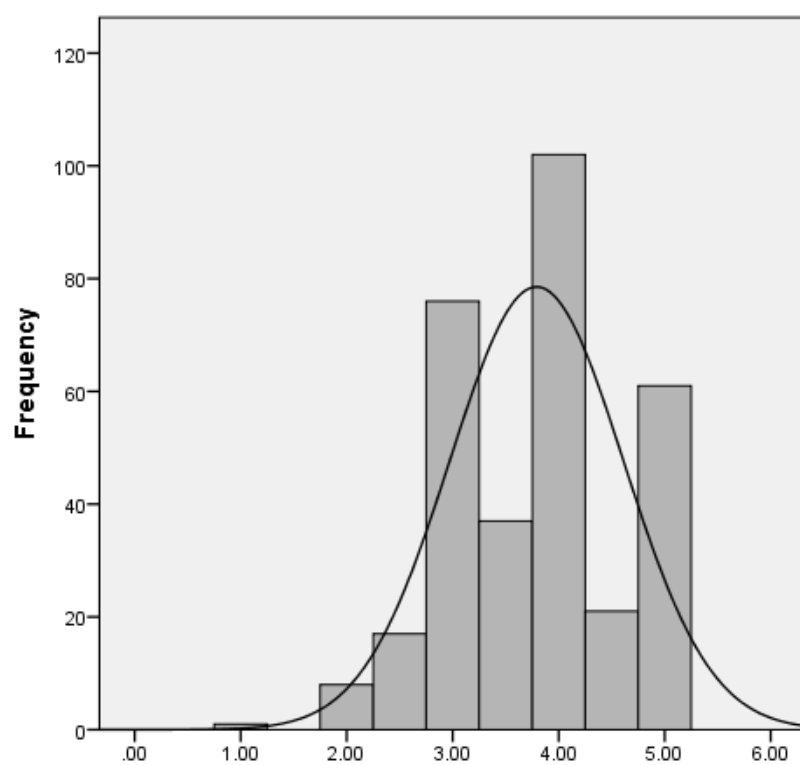**5. Pro-environmental orientation scale**

N = 337

Mean = 2.99

SD = 0.929

Skewness = -0.146

Kurtosis = -0.109

6. Social interaction scale
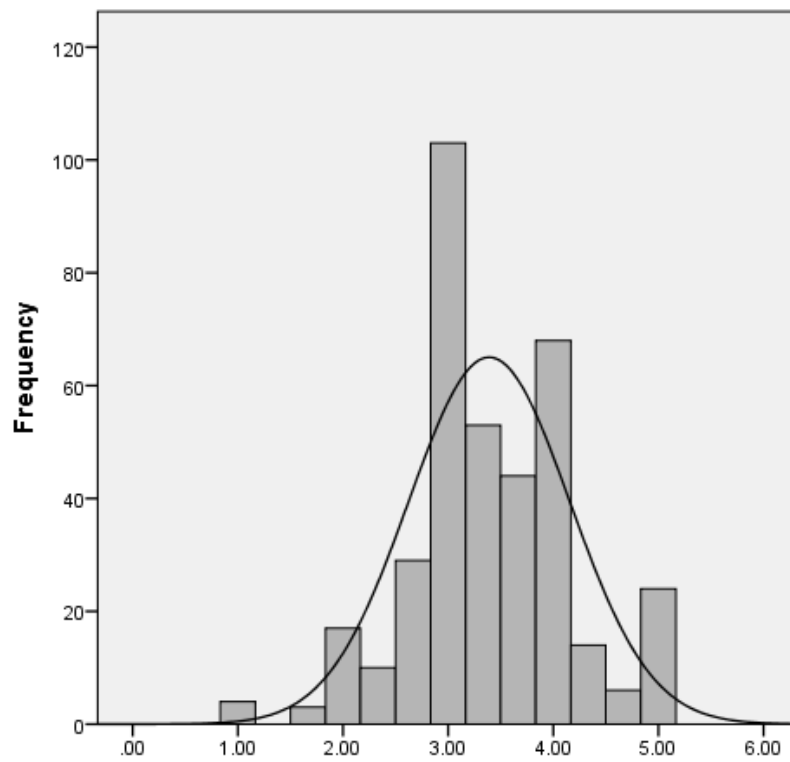

N = 323

Mean = 3.79

SD = 0.820

Skewness = -0.151

Kurtosis = -0.539

7. Personal participation scale

N = 375

Mean = 3.39

SD = 0.767

Skewness = -0.023

Kurtosis = 0.443

MEMO

TO	Dr Leonie Lockstone-Binney	DATE	28/01/2011
	School of Hospitality and Tourism Management		
	Footscray Park Campus		

FROM	Dr Nick Billington
	Chair
	Faculty of Business and Law Human Research Ethics
	Committee

SUBJECT	Ethics Application – HRETH 10/228

Dear Dr Lockstone-Binney,

Thank you for submitting your application for ethical approval of the project entitled:

HRETH 10/228   Assessing Visitors' Place Attachment and Associated Intended Behaviour Related to Tourism

The proposed research project has been accepted and deemed to meet the requirements of the National Health and Medical Research Council (NHMRC) 'National Statement on Ethical Conduct in Human Research (2007)', by the Chair of the Business & Law Human Research Ethics Committee. Approval has been granted from 28th January 2011 to 28th February 2011.

Continued approval of this research project by the Victoria University Human Research Ethics Committee (VUHREC) is conditional upon the provision of a report within 12 months of the above approval date (by **28th January 2012**) or upon the completion of the project (if earlier). A report proforma may be downloaded from the VUHREC web site at: http://research.vu.edu.au/hrec.php

Please note that the Human Research Ethics Committee must be informed of the following: any changes to the approved research protocol, project timelines, any serious events or adverse and/or unforeseen events that may affect continued ethical acceptability of the project. In these unlikely events, researchers must immediately cease all data collection until the Committee has approved the changes. Researchers are also reminded of the need to notify the approving HREC of changes to personnel in research projects via a request for a minor amendment.

On behalf of the Committee, I wish you all the best for the conduct of the project. If you have any queries, please do not hesitate to contact me at Nick.Billington@vu.edu.au

Kind Regards,

Dr Nick Billington
Chair
Faculty of Business and Law Human Research Ethics Committee