Defining residential place attachment and exploring its contribution to community and personal environmental actions

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Declaration of Originality

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**Summary**

Place attachment is an important research area in environmental psychology. Paradoxically, comparing study findings has been made complicated by the numerous definitions, conceptualisations and methodologies which have been employed to study the area. As a result there have been few theoretical advances in recent years. This thesis, drawing on a review of the majority of studies which have been done to date, uses this analysis to undertake comprehensive qualitative and quantitative studies to clarify our understanding of residential place attachment and its importance for people’s behaviour in their communities. The thesis then addresses how residential place attachment contributes to community and personal environmental actions.

Current quantitative and qualitative residential place attachment literature is explored through a systematic review (39 studies). Following this, the variables argued to be salient for the development of residential place attachment are incorporated into a questionnaire (N=499). Using exploratory and confirmatory factor analyses a comprehensive neighbourhood attachment model is constructed made up of the most important variables when measured together for the development of residential place attachment. In a second questionnaire (N=294) the model is then applied to explore whether there are differences in residential place attachment in different types of residential environments; urban, semi-rural and rural, as well as measure whether residential place attachment is related to community and personal environmental actions. Semi-structured interviews (N=18) were then carried out to explore the findings in more depth and address why there are differences in the results.

The study found that place attachment is specific to type and scale of place and that different variables are salient for its occurrence and development in different places. Residential place attachment was found to be significantly higher among rural residents than urban and semi-rural residents. In more urban areas, attachment develops over time more as a result of social ties being formed. Place attachment in rural areas is strongly moderated by social ties; immediate attachment to the qualities of the physical environment assumes more significance than length of residence. The findings demonstrate that villagers living in a close-knit, rural community with a sense of responsibility for the village explain why social cohesion facilitates the relationship between residential place attachment and community environmental actions.
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Chapter One

Introduction

People become attached to places. Place is an important part of people’s concept of home, where they belong, and their roots (e.g., Coles, 1970; Relph, 2008). When places are threatened, people feel threatened. When people feel threatened they usually resist passionately (e.g. Fried, 2000; Manzo & Perkins, 2006). What is it that leads people to become attached to place, to feel passionate about it, and to try and defend it when it is threatened? This thesis seeks to answer those questions.

Place attachment has been an important research area in environmental psychology since Fried’s (1963) work Grieving for a lost home where it was identified that following relocation from the West End of Boston, former residents demonstrated “expressions of grief” (p. 359). Fried identified these reactions as being due to “positive attachments” to the area. Paradoxically there is no obvious or generally accepted overarching theoretical framework to explain place attachment. One of the reasons for this is that place attachment is an interdisciplinary subject. As a result various theoretical influences have been drawn on, leading to contestation considering how to define and conceptualise place attachment. Results of the systematic review (Study 1) demonstrate weak theoretical advances in the place attachment research which can be argued to be a direct result of disagreements as to how place attachment should be conceptualised (see also Lewicka, 2011b). Here, taking into consideration the results of the systematic review and questionnaire (Study 2), place attachment is argued to be a multidimensional construct where affect is central to the relationship between person/people and place but which also incorporates cognitive and behavioural components. Place attachment is likened to an attitude. Various definitions of place attachment will be discussed in the following chapter. Residential place attachment refers to place attachment to the residential area, typically the neighbourhood, though this might extend to the whole village in small rural areas.

Inadequate theory development has resulted in inconsistencies in defining and conceptualising place attachment. Over 450 papers have been identified in this thesis which explore the concept of place attachment. However, when reading through these papers the researcher soon realises that the concept of place attachment is unclear. It is not well defined and various conceptualisations of place attachment have been put forward in the published
literature. Therefore, understanding place attachment and comparing the findings of studies so one can get a comprehensive understanding is very difficult. This thesis firstly aims to address these inconsistencies. As place attachment is applied in numerous research areas and policies, it is vital to have a clear consensus as to what place attachment is and how it should be conceptualised.

Because of the many conceptualisations and the breadth of the research area, it was determined that focusing on a single ‘place scale’ would enable a more thorough evaluation of the position of current research. In order for the findings to be as inclusive as possible, the area in which the greatest quantity of research has been carried out was chosen, this being the residential environment. Although the search for studies to include in the systematic review was quite broad and searched for literature exploring both urban and rural residential areas, the systematic review highlighted that very little research has been carried out exploring attachment in rural residential places. It was predicted that because of the differences in social environments, such as; population size, proximity, availability of social activities, and physical environments, there would be significant differences in why people became attached to rural and urban residential environments. Therefore, using the measure constructed in Study 2, as well as semi-structured interviews, the thesis then explored similarities and differences in different types of residential environments, urban, semi-rural and rural.

The inconsistencies in definitions and conceptualisations of place attachment are even more problematic when one wants to use the concept as an independent variable to explain people’s attitudes and actions in their neighbourhood. Place attachment suggests that people are attached to and identify with the physical environment. However, people are also attached to place because of the people that live there. The importance of community to individuals is often portrayed in popular culture (e.g. in television programmes such as Coronation Street) as well as in research (e.g. Mihaylov & Perkins, 2014; Young & Wilmott, 1957). Therefore, the next step of the research was to explore the relationship of residential place attachment with regard to social cohesion and the effect on sustainable behaviours. Uzzell et al. (2002) found place related social identity to be linked to sustainable attitudes and behaviours in a neighbourhood where there was a strong positive relationship between social cohesion and identity. They found no link between identity and sustainable attitudes and behaviours in a neighbourhood where there was a weak negative relationship between identity and social cohesion. In the present research, social ties to the residential area were found to dominate
existing residential place attachment research, according to the systematic review findings. Therefore, drawing on the research of Uzzell et al. (2002) and considering the systematic review results, it was decided firstly to determine whether social cohesion was related to residential place attachment and following this, to explore the relationship between residential place attachment, social cohesion and sustainable behaviours. Steg et al. (2013) define sustainability as “using, developing and protecting resources at a rate and in a manner that enables people to meet their current needs and also ensures that future generations can meet their own needs; achieving an optimal balance between environmental, social and economic qualities” (Steg et al., 2013, p.11). Therefore, sustainable behaviours in the current research refer to behaviours which are intended to maintain or benefit the physical and social environment.

It was decided to explore the relevance of residential place attachment to sustainable behaviours for two main reasons; due to the urgency of addressing climate change in research and due to the inconsistency in research findings surrounding place attachment and sustainable behaviour participation. Because the residential environment is being explored, it was decided to explore general sustainable behaviours (personal environmental actions) and sustainable behaviours which have an impact on the local environment and community (local environmental actions) separately. The literature suggests that people who are more highly attached to places feel a stronger motivation to protect them (e.g., Manzo & Perkins, 2006; Scannell & Gifford, 2010a). Therefore, it was anticipated that there would be a stronger relationship between residential place attachment and local environmental actions than personal environmental actions.

This thesis poses the following key questions;

1. How should residential place attachment be defined and conceptualised?
2. Are there differences in place attachment in urban, semi-rural and rural residential environments?
3. Is there a relationship between social cohesion and residential place attachment?
4. How does residential place attachment contribute to community environmental actions and personal environmental actions?
1.1 Inconsistencies in place attachment research

The importance of place attachment research is demonstrated by its application in a numerous, diverse range of areas including social housing policy (e.g., Hester, 1984, 20014; Romice & Uzzell, 2005), neighbourhood revitalisation (Anguelovski, 2013; Aiello et al., 2010), and health and well-being (Wilson et al., 2004; Bogdan et al., 2012), among many others. However, a number of place researchers have commented on the inconsistencies in definitions, conceptualisations, and applications of place attachment (e.g., Hernández et al., 2014; Lewicka, 2011b; Patterson & Williams, 2005; Scannell & Gifford, 2010a).

Inconsistencies in place attachment research are, in part, a result of the different epistemologies and theories of place attachment in various research fields. The two common approaches to studying people-place relationships are phenomenology and positivism. The positivist approach is a scientific and rationalist approach. It maintains that knowledge is determined from observing and measuring phenomena in an empirical manner (Walliman, 2009). In contrast, the phenomenological approach argues that knowledge is gained through determining meaning. Rather than separating and measuring individual behaviours in a quantitative way, phenomenologists argue that people and the environment cannot be separated (Seamon, 2014). Experiences cannot be isolated but are tied to all other experiences (Relph, 2009). Phenomenologists explore people-place relationships in a qualitative manner.

Place was of interest to geographers and architects in the 1970s (e.g., Buttimer, 1976; Relph, 1970; Seamon, 1979; Tuan, 1971) through a phenomenological approach and the use of qualitative methods. In contrast, positivism was (and remains) the dominant approach used by social scientists in recent years. Patterson and Williams (2005) argue that it is due to positivism being the dominant approach in the social sciences that it was not until the 1990s that studying place became more of interest to social scientists. Questionnaires have been the most common method within this paradigm to study people-place relationships (Lewicka, 2011b). The systematic review carried out in Study 1 includes quantitative and qualitative studies. The results revealed that even when a specific type of place attachment is being measured, in this case residential place attachment, there are considerable differences in how place attachment is conceptualised. There is disagreement as to whether residential place attachment is restricted to affective bonds or whether physical and social aspects of the relationship between people and places are incorporated. Hernández et al. (2014, p.125) argue
that the number of conceptual frameworks which have been put forward in the area of place attachment is “colossal”.

A further possible explanation as to why inconsistencies exist in place attachment research is that place attachment is generally considered a general phenomenon. Studies concerned with place attachment have been carried out in many different scales of place, from attachment to the home (e.g. Billig, 2006) to attachment to the country (e.g. Gustafson, 2009), for example. As well as different place scales, many different types of place have been subject to place attachment studies, such as, urban residential environments (e.g. Bonaiuto et al. 1999), rural residential environments (e.g. Burholt, 2012), natural environments (e.g. Hwang et al., 2005), recreational environments (e.g. Kyle et al., 2005), work environments (e.g. Inalhan & Finch, 2004), and so on. Review papers have been presented which attempt to communicate a coherent summary of the place attachment research to date (e.g., Lewicka, 2011b; Scannell & Gifford, 2010) though considering the quantity of research being carried out, it is an immense body of work. Furthermore, of the few studies which have been carried out which contrast place attachment in different types of environment, the evidence indicates that there are differences in place attachment depending on the environment and meaning to people. For example, reasons for attachment to a rural area differed for people who lived there full-time compared to those who had holiday homes in the area (Stedman, 2006). Therefore, it was concluded that focusing on one type of place attachment would allow a more in-depth and thorough analysis of why people become attached to a specific environment. The neighbourhood was selected as the most appropriate place as, despite attachment levels overall being lower than attachment to the home or city (Lewicka, 2011b), attachment to the neighbourhood is still considerably high (Hernández et al., 2007) and additionally, it is the most frequently used type and scale of place for place attachment research (Lewicka, 2011b). As a result, it has the largest body of research in order to carry out a systematic review comparing definitions and conceptualisations of place attachment and identifying variables considered important for its development.

From these arguments we might conclude there are inconsistencies in definitions and conceptualisations of place attachment at a neighbourhood level and that residential place attachment research findings cannot easily be compared. This in turn leads to the research questions;
1. How should residential place attachment be defined and conceptualised?
2. Are there differences in place attachment in urban, semi-rural and rural residential environments?
3. Is there a relationship between social cohesion and residential place attachment?
4. How does residential place attachment contribute to community environmental actions and personal environmental actions?

In order to operationalise these research questions they have been broken down into the following aims:

i. Contrast definitions and conceptualisations of residential place attachment.
ii. Discover what variables have been identified as being instrumental for the occurrence of residential place attachment.
iii. Using these variables, construct a systematic measure of residential place attachment.
iv. Use the systematic measure and interviews to examine the difference between residential place attachment in urban, semi-rural and rural residential environments.
v. Examine relationship between attachment, social cohesion, community environmental actions and personal environmental actions.
vi. Consider how residents report their feelings of residential place attachment have changed over the time they have lived in their neighbourhoods.

The first study, a systematic literature review, provides the foundation for the direction of the remaining studies in the thesis. The systematic review addresses questions which have not been addressed in the research thus far. In focusing on one specific type of place attachment rather than considering place attachment in general, it asks whether there are still considerable inconsistencies in conceptualisations of residential place attachment and what variables are argued to be important for its occurrence and development.

Several original contributions to knowledge are presented throughout the thesis. Firstly, even when one specific type of place is focused on, it identifies that there are differences in conceptualisations and contrasts those which have been put forward in the literature. Secondly, it gathers variables which are argued to be important for the development of residential place attachment and incorporates these into a questionnaire in order to identify the most salient variables. Thirdly, rather than creating a neighbourhood attachment measure using only some variables which are thought to be important for the development of
residential place attachment, it considers the variables together within the same context, to create a new, systematic residential place attachment model, identifying from all of the included variables those which are salient for the development of residential place attachment. Fourthly, it uses a systematic residential place attachment measure and interviews to identify that there are significant differences between residential place attachment in different types of neighbourhoods; urban, semi-rural and rural, and identifies why some of these differences occur. Fifthly, it identifies how residential place attachment changes over time. Sixthly, it identifies that residential place attachment is important for community environmental actions when moderated by social cohesion in rural neighbourhoods but not urban or semi-rural neighbourhoods. And finally, it concludes that residential place attachment does not directly contribute to the propensity to carry out personal environmental actions, although the interviews demonstrate personal environmental actions to be important for local and regional identity.

1.2 The structure of the thesis

This thesis addresses the confusion surrounding the definitions and conceptualisations of residential place attachment. It also considers whether residential place attachment plays a role in behaviours aimed at improving the local environment and community and general sustainable behaviours. In order to address these questions, included in this thesis are a systematic literature review, two questionnaires, interviews and a discussion chapter. A summary of each follows.

1.2.1 Chapter Two: Literature Review

Chapter Two begins by introducing the importance of having clearer definitions and conceptualisations of place attachment and outlines why there is contestation surrounding residential place attachment. Specifically, it outlines how interest in place attachment has grown in many fields and that contestation has arisen from the various epistemological approaches, theories and methods employed to explore place attachment.

As Study 3 explores differences in residential place attachment in urban, semi-rural and rural residential environments, included here is a discussion of the literature regarding what different types of environment mean to residents in England. It also considers why residential place attachment may lead to the propensity to carry out community environmental actions.
An overview of the research considering why people may or may not carry out personal environmental actions, or general sustainable behaviours, is also included here. It is argued that no one theory has adequately been able to explain why some people carry out sustainable behaviours while other people do not, and why some behaviours are carried out routinely while other behaviours are not. A link has been found between identity and sustainable behaviour with social cohesion, community identification, satisfaction and the quality of the environment being important for the relationship (Guárdia & Pol, 2002). Study 3 aimed to identify whether there is also a connection between social cohesion, residential place attachment, community environmental actions and personal environmental actions.

1.2.2 Chapter Three: Contrasting definitions and conceptualisations of residential place attachment in the current literature

Chapter Three details the procedure and evaluates the findings of Study 1, a systematic literature review intended to explore the different definitions and conceptualisations of residential place attachment taking into consideration different epistemological and theoretical backgrounds. In addition, it intended to identify variables which are argued to be salient for the development of residential place attachment. The results demonstrate that there are considerable differences in how residential place attachment is defined and conceptualised. Affective ties are included in all definitions and conceptualisations of residential place attachment. However, beyond this, there is little agreement. Using the framework introduced by Hernández et al. (2007), residential place attachment has been argued to be both a one-dimensional construct and a multi-dimensional construct both where the affective bond is central to attachment and where it is considered subordinate to other aspects of the people-place relationship. Furthermore, 32 variables, concerned with emotional ties, identity, social aspects, involvement and efficacy and physical aspects of the relationship with place were identified from a combination of the 39 studies included in the review as being important for the development of residential place attachment. Finally, Study 1 illustrates that there are mixed findings with regard to whether there is a significant relationship between various demographic variables, such as length of residence, gender, age, income, among others, and residential place attachment.
1.2.3 Chapter Four: Creating a residential attachment measure

Chapter Three details Study 2 which is concerned with creating a systematic residential place attachment measure. The 32 variables identified through the systematic review argued to be salient for the development of residential place attachment were included in a questionnaire. From a final sample of 499 primarily urban residents, exploratory and confirmatory factor analyses confirmed residential place attachment to be a multi-dimensional concept, consisting of five factors. These include ‘affective bonds’, ‘efficacy and control’, ‘social bonds’, ‘perceived security’, and ‘memories and experiences’. Different demographic, satisfaction and affective appraisal variables were found to be related to different factors indicating why in some studies variables were found to be significantly related to attachment but not in others, depending on the construction of the residential place attachment measure used.

1.2.4 Chapter Five: Quantitative analysis of residential place attachment in urban, semi-rural and rural residential environments

Study 3 is discussed in Chapter Five. Here the systematic residential place attachment model which was constructed in Study 2 was applied in the real world. The model was built from questionnaire responses from primarily urban residents. Here it was applied in different types of residential environments to identify whether the model is sensitive to differences. Specifically, it was carried out in urban, semi-rural and rural residential environments. Additionally, because of the inconsistent results when residential place attachment is applied in research areas, briefly outlined above, the systematic residential place attachment measure was used to identify whether residential place attachment plays a role in community environmental actions, that is, behaviours which aim to preserve or improve the local environment and community, as well as extending this to personal environmental actions, which include, general sustainable behaviours such as recycling, energy and water preservation, and so on.

Results demonstrated residential place attachment to be significantly higher in rural residential environments than urban or semi-rural residential environments. There was no significant difference between urban and semi-rural environments. Social cohesion was strongly, positively related to residential place attachment in all environments, though
attachment was not significantly related to personal environmental actions in any environment. Community environmental actions were significantly positively related to attachment in rural and environments when moderated by social cohesion.

1.2.5 Chapter Six: Qualitative analysis of residential place attachment in urban, semi-rural and rural residential environments

Chapter Six presents Study 4 which is a qualitative extension of Study 3. Through semi-structured interviews, why residents are attached to their neighbourhoods, how their feelings of attachment have changed over the time of residency in the neighbourhood, their perception of social cohesion within the neighbourhood, and attitudes towards community environmental actions and personal environmental actions are explored. Eighteen interviews were carried out in total. Six interviews were carried out in each environment with three participants who are highly attached and three who demonstrated lower levels of attachment according to the results of the questionnaire carried out in Study 3.

Findings suggest there are differences in why residents are attached depending upon whether they live in urban, semi-rural or rural residential environments. It also becomes clear that attachment changes over time in that social relationships become more salient for residential place attachment in all three environments. Residents in rural environments feel more responsible for their neighbourhood and feel that members in their community are closer and work together to protect or improve the neighbourhood which may explain why community environmental actions are significantly related to attachment in only rural environments in Study 3.

1.2.6 Chapter Seven: Discussion

In Chapter Seven the thesis is summed up and an overview of the studies, methods and findings presented and discussed in relation to the existing literature. The original contribution and importance of the work is summarised. Limitations and possible future directions are also considered here. Concluding arguments and a very brief summary of the main findings are also presented here.
Chapter Two

Literature review

2.1 Introduction

This chapter reviews the current literature in relation to the four thesis research questions. Firstly, how interest in the area of place attachment developed is addressed and why there is no consistent conceptualisation of place attachment. Following this, a discussion of attachment research in different types and scales of place is considered, how this contributes towards inconsistencies in conceptualisations and why the present research focuses on different types of residential areas. A summary of the current literature on sustainable behaviour participation is then presented along with a consideration of how place attachment may be related to sustainable behaviour participation, and finally, the relationship between place attachment and social cohesion is reflected upon in terms of the importance of social cohesion for the adoption of sustainable behaviours.

2.2 Applications of place attachment research

Place attachment is one of the key concepts in environmental psychology. The centrality of the concept of place attachment is apparent from simply entering the terms ‘place attachment’ into PsychINFO Proquest where 13,316 references are cited. But the richness of studies and their potential value is undermined by the huge variation in how the term is understood, operationalized and reported. Place attachment has been applied in a number of research areas, including, social housing policy (Manzo et al., 2008), community design (Hester, 1984, 2014; Romice & Uzzell, 2005), health and well-being (Wilson et al., 2004; Bogdan et al., 2012), natural resource management (Kil et al., 2012; Lee & Shen, 2013), tourism (Cui & Ryan, 2011), regional planning (Kruger, 2008), and pro-environmental engagement (Devine-Wright, 2011; Jones et al., 2011; Scannell & Gifford, 2010b; Vaske & Kobrin, 2001).

2.3 Why is residential place attachment important?

Residential place attachment has been demonstrated to be important in many areas. Using the studies included in the systematic review (Chapter Three) residential place attachment is argued to be important for neighbourhood revitalisation (Anguelovski, 2013; Aiello et al., 2010), such as, the importance of having community spaces (Pendola & Gen, 2008) and including residents into the process of re-designing community spaces ((Kimpton et al.,
Attachment has also been shown to be pertinent for a sense of community among the residents (Amsden et al., 2011; Anguelovski, 2013; Górny et al. 2013; Greif, 2009).

Brown et al. (2003) point out that attachment is also important for policy makers tackling neighbourhood deprivation, where physical decline, loss of social cohesion and crime are a threat. Higher place attachment and sense of community are linked to reduced population turnover and issues of crime (Livingston et al., 2010) and thus policy makers should not only focus on reducing crime but on improving residents’ quality of life in order to increase social cohesion, according to Woldoff (2002). This argument is supported by Bailey et al. (2012) who point out that social cohesion is key for feelings of safety in residents in deprived neighbourhoods.

Not only is residential place attachment important for urban planners, designers, architects and policy makers, higher attachment is argued to contribute to well-being and life satisfaction (Gilleard et al., 2007; Gustafson, 2001; Rollero & De Piccoli, 2010) and thus, is an important consideration also for mental health professionals (Riger & Lavrakas, 1981).

Residential place attachment research included in the review has informed on the effects of mobility on individuals and communities (Bolan, 1997; Burholt, 2012; Feldman, 1996; Gustafson, 2001; Mesch & Manor, 1998; Rowles, 1983). It has been used to inform on the effects of changing communities on residents, such as the effects of tourism in rural places (Stedman, 2006).

Residential place attachment has also been useful in exploring responses to environmental degradation. Rogan et al. (2005) provide important information for policy makers tackling environmental restoration by pointing out the importance of environmental awareness as a mediator between attachment and conservation behaviours and the work of Mishra et al. (2010) on flood preparedness and resistance to preparation supplies valuable insights for planners.

Lupton (2003) points out the importance of the neighbourhood for public policy, for example, in 2003 the UK Government started People and Place – A Strategy for Neighbourhood Renewal (Department for Social Development, 2015) aimed at tackling deprivation in communities where there are high levels of deprivation. Furthermore, extensive academic research is being carried out on the neighbourhood, so much so in fact that the Economic and Social Research Council (ESRC) now funds the Neighbourhood Research Centre (Lupton, 2003) with the aim of bringing together the research in this area. Therefore, this research
aimed to identify what is salient for the occurrence and development of residential place attachment and the creation of a systematic measure is long overdue given the application of attachment in these areas.

2.4 The development of interest among research in people-place relationships

Residential place attachment, and place attachment of other place scales, is not only of interest to social scientists. As well as psychologists and sociologists, place is also of interest to geographers, architects (Patterson & Williams (2005), anthropologists, forest scientists (Ardoin, 2006), planners and urban designers (Relph, 2008), among others, due to it being a phenomenon of everyday experience (Relph, 2008).

While it was only during the 1990s that it became such a popular topic in the social sciences (Patterson & Williams, 2005; Lewicka, 2011b), geographers and architects had already been exploring the concept of place in the 1970s. It wasn’t until 1981 that the term place attachment was first defined by social scientists Stokols and Shumaker (1981) (Lewicka, 2011b). Stokols and Shumaker (1981) were exploring place related meanings rather than social meanings which, up until that point, researchers had focused on.

Relph, who was the first geographer to write about phenomenology and place (Relph, 2006, p.2) argues “I became increasingly critical of behavioural approaches….. and attempts to make geography into a quantitative social science because they are so mechanical and exclude so much of human experience”. Relph draws on the arguments put forward by Malpas (1999, 2007) “that place is a fundamental aspect of being, and that being is always articulated in and through particular places yet reaches out beyond them to grasp what it means to exist in the world” (Relph, 2008, p. vii). Using this holistic approach, Relph (1970) and Tuan (1971) initiated a new research direction in humanistic geography (Stock, 2000) inspiring others (e.g. Buttimer, 1976; Seamon, 1979).

Seamon (1979) also adopted a phenomenological perspective to explore place, which at the time of writing his book, he stated was a relatively new approach in behavioural geography. Seamon (2005) criticised the positivist approach, which emphasises quantitative methodology. He argues “these theories and concepts seemed too often reductive, cartoon versions of the lived richness of my own environmental actions, experiences and situations” (Seamon, 2005, p.1/2). Seamon was greatly influenced by Buttimer, whose research was influenced by “lifeworld”, a phenomenological idea which Buttimer (1976, p.277) defines as “the culturally defined spatiotemporal setting or horizon of everyday life”. She argues that
lifeworld cannot be studied by positivist methods which attempt to separate people and their environment”.

Seamon (1979) puts forward an explanation of the role of phenomenology as being “less to give us new ideas than to make explicit those ideas, assumptions, and implicit presuppositions upon which we already behave and experience life” (Keen, 1975, p. 18, cited in Seamon, 1979, p.17). Seamon (2014, p. 11) later argues that “place is not the physical environment separate from people associated with it but, rather, the indivisible, normally unnoticed phenomenon of person-or-people-experiencing-place”. The general argument being that experiences cannot be examined in isolation (Relph, 2008) but are intertwined with all other experiences.

According to Seamon (1996) and Stock (2000), Relph’s arguments are still relevant and influential in the attachment literature today. While there are only four studies by humanistic geographers and architects included in the systematic review (Kamalipour et al., 2012; Kimpton et al., 2014; Rowles, 1983; Williams et al., 2010), terms such as “sense of place” and “rootedness” are still being used to label people’s relationships with significant places by authors of various disciplines, and thus the influence of these relatively early arguments regarding the relationship between people and place is evident.

In contrast to geographers, interest in place did not largely develop among social scientists until the 1990s, according to Patterson and Williams (2005). Positivist epistemology was the dominant epistemology in psychology at that time and quantitative methods were primarily used. “Positivism is the non-critical acceptance of scientific method as the only way to arrive at true knowledge” (Hogg & Vaughan, 2008, p.24). Evidence indicates that positivist methods are still the dominant methods in social and environmental psychology today with regards to studying place (Lewicka, 2011b). There is evidence that earlier research drew on phenomenology to explore place. For example, Environmental Psychologist Canter’s (1977) research and subsequent book *The Psychology of Place*. Using interviews and mapping, which involves residents drawing an outline of what they argued to be their neighbourhood, Canter concluded that place is made up of: the Intersection of Activities, which refers to what behaviour is associated with the place; Physical Attributes, describing the characteristics of the environment, and finally; Conception, which is the understanding of the expected behaviour in the environment. Canter’s model has been criticised for ignoring the affective bond to place and furthermore, both Canter and Relph are criticised for ignoring people’s
actions in the place (Groat, 1995; Sime, 1995). Even so, Canter’s theory of place has been very influential in subsequent attachment research. For example, Aiello et al. (2010) use Canter’s place theory as a theoretical framework to explore whether cognitive evaluation of the neighbourhood, affective appraisals of the neighbourhood and activities performed there can predict resident satisfaction and neighbourhood attachment. Bonnes et al. (1990) use place theory to explore how urban environments become a ‘place’ for residents.

‘Attachment’ is a familiar concept to psychologists for whom Bowlby’s (1969, 1982) interpersonal attachment theory has been so influential (Fornara et al., 2010; Lewicka, 2011b). Interpersonal attachment theory is concerned with the formation of emotional bonds between a child and primary caregiver. According to Bowlby’s theory, attachment relationships are indicated by four psychological processes: “proximity maintenance” (Bowlby, 1969, p.200) where remaining in close proximity to the primary caregiver results in the child feeling protected and safe, and thus is a “safe haven” for the child. As the child grows and wants to explore, the primary caregiver becomes a “secure base” from where the child can begin to explore the environment around them but, when feeling threatened, can return to for safety. However, “separation distress” will occur after periods of extended separation, according to Giuliani (2003) and Scannell & Gifford (2014, p.25). Similarities between Bowlby’s attachment theory and place attachment have been demonstrated, which Giuliani (2003) and Scannell & Gifford (2014) have explored at length. Proximity maintenance to places has been demonstrated in various behaviours, such as destination loyalty (Chi & Qu, 2008; Prayag & Ryan, 2011), that is, holiday makers who repeatedly return to the same destination, and also where emigrants to an area construct buildings and name places which reflect their heritage (Cresswell, 2004, cited in Scannell & Gifford, 2014). Cresswell (2004) argues that the naming places to reflect heritage is a symbolic action when being close to the place is not possible.

Little research has been carried out regarding places as a secure base. Scannell & Gifford (2014) report that home is the most common type of place to be associated with being a secure base although research is scarce. They do, however, point to Case’s (1996) study which demonstrates that bonds are strengthened after periods of being away. Fried’s (1963) work on the psychological distress of compulsory relocation for residents of The West End, Boston, is arguably the most well-known piece of research which demonstrates separation distress. Fried associated residents’ feelings of distress with a disruption in continuity which led to fragmentation of their spatial and group identity (Giuliani, 2003). Scannell & Gifford
(2014) argue that threats to place may also indicate separation distress as there is a threat of disruption to the bond. Hidalgo and Hernández (2001) argue that proximity maintenance, or the wish to remain close to the person or place one is attached to, is a central feature of both interpersonal and place attachment.

The social psychological concept of attitudes incorporates affective, cognitive and behavioural components according to some models, such as the three-component model of attitude (Himmelfarb and Eagly, 1974). Himmelfarb and Eagly (1974, cited in Hogg and Vaughan 2008, p.148) define an attitude as “a relatively enduring organisation of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events or symbols”. The three component model of attitudes is argued to consist of an affective component, a cognitive component and a behavioural component (Rosenberg & Hovland, 1960). Feeling attached to a place in the current research is considered an attitude towards a place. The affective component refers to feelings and/or emotions about the place. This is argued to be central to attachment, in the current research as well as elsewhere (e.g., Bailey, et al., 2012; Low & Altman, 2002; Scannell & Gifford, 2010a). The cognitive component involves one’s beliefs/knowledge about a place, for example, that it is a safe place to live. Higher attachment has been linked to lower perceptions of crime within the neighbourhood (Livingston et al., 2010) and lower levels of place attachment have been linked to perception of higher social and physical incivilities within the neighbourhood (Brown et al. (2003). Finally, residential place attachment is argued to incorporate a behavioural component, how attachment influences how we act or behave in the place, for example, making a decision to remain in the place rather than move away (Bolan, 2010) or a desire to remain in close proximity to the place (Hidalgo & Hernández, 2001). Nevertheless, attitudes do not always predict behaviour (Ajzen & Fishbein, 2005) which may explain why highly attached people spend periods of time away from the place to which they are attached or even move away from the area.

2.5 Contest surrounding place attachment research

It is commonly reported that there is considerable discrepancy with regards to what place attachment is (Hernández et al., 2014; Patterson & Williams, 2005; Scannell & Gifford, 2010a). For example, Hernández et al. (2014, p. 125) point out that many labels used to refer to the emotional bond between people and their environment, such as; place attachment, rootedness, sense of place, sense of community, urban attachment, and so on, which are not
clearly, and distinctively defined as referring to the same or different phenomena (Patterson & Williams, 2005).

As well as discrepancy as to what place attachment is, there is also inconsistency in how place attachment should be measured (Hernández et al., 2014; Patterson & Williams, 2005; Scannell & Gifford, 2010a). For example, whether it should be examined quantitatively or qualitatively, an argument that is discussed in depth below. Even when researchers agree on the type of method, there is disagreement as to what instrument should be used to measure it. For example, questionnaires range from a single item measure of place attachment (e.g., Wu, 2012) to a 46 item measure (Williams et al., 2010). While place attachment is being applied in a number of research areas, different criteria are being used to define and measure place attachment and as a result findings are inconsistent.

2.6 Epistemological and methodological differences in place attachment research

Different interpretations of the dimensionality of place attachment can be seen to reflect different epistemologies. Positivist epistemology argues that data can be measured and reported empirically (Walliman, 2009). Numerous place attachment measures have been constructed, the most commonly applied, according to Lewicka (2011b), is that of Williams and Vaske (2003) which measures place attachment and place dependence in natural areas. Place dependence refers to how well a place meets one’s needs (Stokols & Shumaker, 1981) and compares the current place to possible alternatives, and thus is based on behaviour rather than affect (Jorgensen & Stedman, 2001).

On the other hand, an interpretivist epistemology, which argues that “the view of the world that we see around us is the creation of the mind” (Walliman, 2009, p.17), criticises positivism, arguing that natural science methodologies cannot be applied to social science as researchers are part of society and cannot view it objectively (Walliman, 2009); the assumption being that knowledge of the “historical, psychological and social backgrounds” is necessary in order to understand individuals (Walliman, 2009, p.197). Phenomenologists argue that people and places are interwoven and therefore, place attachment cannot be examined in terms of, for example, the affective, cognitive, or behavioural aspects, but should be explored as a whole relationship (Seamon, 2012). Moreover, place attachment is dependent upon geographical quality, aesthetics, cultural quality, social involvement, identity (Seamon, 2014). Phenomenological epistemology can also be found in the ideas surrounding the sense of place approach. According to Rose (1995) geographers use the term sense of
place to refer to the significance of places to people. Significant places are intertwined with our life experiences. It refers to the “emotional, rational, symbolic, and spiritual aspects of the relationship between people and their physical environment” (Casakin & Billig, 2009, p.822). Williams (2014) argues that positivist methods, such as questionnaires, can be more easily used when place attachment is narrowly defined as an affective bond. However, questionnaires have also been applied to measure sense of place. Jorgensen and Stedman (2001) describe sense of place to be an overarching concept which incorporates other concepts which describe people-place relationships. They include the dimensions; place attachment (Low & Altman, 1992), place identity (Proshansky, 1978; Proshansky et al., 1983) and place dependence (Stokols & Shumaker, 1981) to give a measure of sense of place. For place identity to occur, the place itself is important, as well as people and objects within the place in order to shape identity (Hay, 1998). According to Proshansky et al. (1983) place identity contributes to self-identity. Twigger-Ross & Uzzell (1996) argue that self-identity cannot be entirely divorced from place attachment and identity.

According to Tashakkori and Teddlie (2010) epistemological differences in psychological research can be traced back to Plato (429-347 BCE) and Socrates (470-399 BCE) and their opponents, the Sophists. Plato and Socrates were absolutists, believing that something is either always true or false, while the Sophists were relativists, and arguing that truth changes depending on “the situation, the context, the issue, one’s purpose, or one’s perspective” (Tashakkori & Teddlie, 2010, p. 73). It is not directly relevant to explore the epistemologies in such a level of detail here. It is suffice to say that arguments over epistemologies and methodologies still exist today among place attachment researchers and quantitative methods are arguably still being used more by psychologists in this area (Lewicka, 2011b).

Differences in epistemologies result in differences in methods being used to study place. Epistemologies are limited in the type of knowledge that the different methods typically used are capable of producing. Positivism assumes that objective knowledge about the world can be acquired through scientific methods. Towards the beginning of the nineteenth century Auguste Comte put forward the argument of the use of positivism in social science, arguing that scientific method can be applied to social phenomena and that all social phenomena are therefore subject to fixed laws (Jahoda, 2007). This argument has been extremely influential in some areas of psychology. For example, social psychology is still argued to be the study of social behaviour by scientific method by some researchers (e.g. Hogg & Vaughn, 2008).

Behaviourism, which became the dominant approach in psychology at the beginning of the
twentieth century (Tashakkori & Teddlie, 2010), emphasised observable behaviour and thus used quantitative, scientific methods.

Although quantitative methods dominate psychological research, qualitative methods are also used and have increased in popularity (Tashakkori & Teddlie, 2010). Towards the mid- to late twentieth century a contrasting argument to that of Comte emerged which included the overlapping traditions of post structuralism, post modernism, and critical theory (Taylor, 2001). In contrast to positivism, the epistemological argument here being that we cannot capture the truth of reality but put forward an interpretation based on our understanding. It is argued that there is no single reality but multiple realities, based on our varying life experiences (Taylor, 2001). An influential argument in social psychology was the sociological perspective, social constructivism. According to this perspective the social world is far more important than scientific theory in understanding society and the relationships between members of society (Berger & Luckmann, 1966).

Epistemological struggles were also occurring in other fields, such as sociology, anthropology, and geography (Tashakkori & Teddlie, 2010). For example, the arguments of Relph (2006) and Seamon (2005) outlined above regarding the response to the positivist approach to exploring geography. At the same time that geographers such as Relph (1970) were arguing that phenomenology is an important approach for exploring people-place relationships, perception studies were becoming more popular in geography. The argument being that studying peoples’ perceptions of aspects of the environment such as, space preferences, urban and countryside areas, would result in a better understanding of people-environment relationships (Wood, 1970).

Considering the epistemological differences between the different disciplines, and even within the disciplines, such as in psychology, as illustrated above, it is hardly surprising that place, which is of interest to such a range of disciplines, causes so much contest as to how to study it, and its importance.

2.7 Contrasting qualitative and quantitative methods

As a result of the different theoretical premises which have been used to inform place attachment, it follows that differentmethodologies are being utilised to measure it. As discussed above, qualitative methods have become more popular in place attachment research. Gelo et al. (2008) argue that psychologists tend to use a quantitative or qualitative
approach and a qualitative-quantitative debate is evident whereby some researchers argue the merits of one type of method over the other.

Because quantitative methods use statistical inference to attempt to ensure objectivity, some researchers who prefer employing quantitative methods maintain that qualitative methods are too subjective, encouraging bias towards verifying the researcher’s preconceived assumptions (Walliman, 2005). Flyvbjerg’s (2006) response to this argument is that all methods could be criticised for potential bias towards verifying the researcher’s expectations. Moreover, he lists a number of qualitative researchers who have found their assumptions to be incorrect (including: Campbell, 1975; Ragin, 1992; Geertz, 1995; Wievorka, 1992; Flyvbjerg, 1998, 2001, cited in Flyvbjerg, 2006, p. 235). Huberman (1987, cited in Howe, 1988, p. 12) questions objectivity in quantitative methods by arguing that researchers make judgements about the validity of measurement instruments, what confounding variables to include, and which statistical tests to use prior to carrying out the research which are argued to be “not amenable to mechanistic demonstration”.

Another common criticism of qualitative methods is that results cannot be generalised as they potentially can though using quantitative methods. However, Flyvbjerg (2006) argues that a strength of case studies, though the argument can be applied to qualitative methods in general, is that because of their in depth analysis they can be used to discover knew knowledge. To illustrate his argument he uses Popper’s “all swans are white” example. Flyvbjerg (2006) contends that case studies are ideal methods to falsify such a claim, which quantitative methods would arguably not be able to do as they are better suited to discovering other types of information such as counting occurrences or identifying the strength of association between variables, for example (Gelo et al., 2008).

These are the most common criticisms of the methods, though there are others. Ultimately, the different methods are concerned with different types of information. While qualitative methods search for processes, or why something is happening, quantitative methods search for whether it is representative. Lewicka (2011b, p.222) claims that quantitative studies tend to be concerned with “how much”, the subjective importance and strength of ties between people and places, while qualitative studies are concerned with “what”, what the places mean to people. An argument is put forward for the use of mixed methods, employing quantitative and qualitative methods, in the Introduction for Study 4.
The advantage of using mixed methods research is that it combines the strengths of each analytical approach to provide a better understanding of the research problem than either quantitative or qualitative data alone could provide (Creswell, 2015). Quantitative data provides generalisable information which is representative of the target population but by reducing data to numbers it is limited. It does not provide detail and context, nor can it explore why attitudes and behaviour occur. Qualitative data complements quantitative data by providing more detail and explaining context. It is able to explore reasons for attitudes and behaviour and can search for further variables not included in the quantitative study. The current research employs mixed methods. Although psychologists typically employ quantitative methods, because the advantages of also using qualitative methods in terms of exploring why residential place attachment differs according to what type of environment individuals live in, interviews were also employed. Rather than simply stating that differences exist, it was felt that the use of mixed methods would enrich and explain the survey results.

2.8 Place attachment research and place scales and types

Research has explored place attachment on many different scales. Attachment to the home (e.g., Billig, 2006; Newton, 2008) the neighbourhood (e.g., Brown et al., 2003; Pendola & Gen, 2008), the town or city (e.g., Casakin et al., 2015; Lewicka, 2008), nationally (e.g., Laczko, 2005) and internationally (e.g., Gustafson, 2009) have all been considered. Of the few studies which have compared attachment at various place scales, the findings indicate that the reasons why people become attached to places of varying scale are different. For example, Hidalgo and Hernández (2001) found that physical factors are more salient reasons for attachment to the city while social factors are more important for attachment to the neighbourhood. Therefore it is important to distinguish reasons for attachment between the different scales of environment. Focusing on attachment to only one place scale rather than considering attachment research as a whole, may give a clearer indication as to what is important for attachment to occur.

Although the majority of the research on attachment has been carried out on urban residential environments (Lewicka, 2011b), attachment has also been studied to many other types of environment. Some examples include, rural residential environments (e.g., Burholt, 2012; Stedman, 2006), rural recreational places (e.g., Kyle et al., 2005), rural landowners attachment to their land (Milburn et al., 2010). Stedman (2006) was concerned with examining how second home owners’ attachment to the area differs from that of full time
residents in Vilas Country, Wisconsin, USA. He found that reasons for attachment differed between those who lived in their rural environment full-time from those for whom it was a holiday home. Specifically, that social and community ties were more important for full-time residents while environmental quality and escaping day-to-day life were associated with higher attachment in second home owners. These findings demonstrate that attachment differs depending on the meaning of the place to the individual or group, in this case whether it is where one lives and presumably sees as home as opposed to where one goes on holiday.

The conclusion that is being taken from this brief summary of existing research evidence on place attachment is that attachment is not a general phenomenon but varies depending on type of environment and scale of environment. Therefore, research on the salience of place attachment in different kinds of environment and at different scales cannot be combined. As a result, it was decided that the focus of this systematic review would be on residential place attachment being that it is the most commonly studied place scale (Lewicka, 2011b). It was decided to include studies which focus on both urban and rural residential environments in the systematic review with an awareness that similarities and differences between attachment measured in urban and rural places should be recorded.

Although Lewicka (2011b) identified that home and city attachment are stronger than residential or neighbourhood attachment, Hernández et al. (2007) point out that despite this, people do become strongly attached to their neighbourhood. As this study is concerned with exploring why attachment occurs, it was felt to be important to focus on the area where most research had been carried out.

There is no clear, objective definition of neighbourhood boundaries for residents (Coulton et al., 2001). According to Lee (1968) when residents are asked to map the edges of their neighbourhood, social and physical involvement, specifically how many family members and friends living in the vicinity and the number of places visited frequently by the resident, all play an important role in determining where the boundaries lie. Lee (1976) asked residents to mark neighbourhood boundaries on a map and found that, aside from the central neighbourhood area, residents generally “pulled” the neighbourhood towards their own residence. Thus, it appears that ‘neighbourhood’ is a subjective term which is defined for individuals by their involvement in the physical environment and social community around them.
2.9 Residential place attachment in urban, semi-rural and rural residential environments

There are far fewer studies carried out in rural residential areas than urban residential areas. This was reflected in the studies included in the systematic review detailed in Chapter Three where 74.4% of the included studies focused on urban residential environments while only 16.3% focused on rural residential environments. 9.3% included urban and rural environments but did not explore differences in attachment between the types of environments. Just under one fifth (18.5%) of the population of England and Wales live in rural environments (Office for National statistics, 2013). While there are considerably fewer people living in rural residential environments it may follow that, being that the types of environment are so different, the reasons for attachment may be different.

Rural and urban areas can be distinguished from one another in a number of ways, including, community size, distance between residential areas, available services and amenities, aesthetical attractiveness (Burholt, 2012) suggesting that the reasons residents become attached to the different types of place might be different. These three types of environments are perceived very differently and people relate to them in different ways and presumably become attached to them for different reasons. The importance of urban neighbourhoods is evident as the neighbourhood is the concept which planners use for urban construction. This was adopted as official policy by the government for rebuilding damaged urban areas following the Second World War and was based on the ideas of Perry (1929) who “proposed that the neighbourhoods should be planned and built as a whole to endow a sense of identity and to promote feelings of a community” (Lee, 1976, p. 131). However, research suggests planners’ concepts of neighbourhoods differ somewhat to those of residents. Lee (1976) found that while neighbourhood is extremely important to residents, it is a considerably smaller area than the idea of neighbourhood put forward by policy makers and central to the concept of neighbourhood is a socio-spatial schemata, that is, both social and physical aspects of the place. Lowenthal and Prince (1965, p.189) argue that London is “in a sense an archipelago of villages, whose names are inscribed on the urban map and whose inhabitants think parochially of their shops and ‘locals’”. They argue that this perception of their neighbourhood as separate from other neighbourhoods as well as easy access to “places where the urban scene is hardly visible” gives London a more rural feel.
‘Natural’ aspects of the environment are consistently found to be important to people. Lowenthal and Prince (1965, p.189) comment that “Seaside resorts excepted, there are few things in England for which a rural setting is not generally preferred”. Korpela et al. (2009) found that in urban environments natural aspects, such as parks, forests and beaches were most commonly reported to be favourite places. Similarly, Scannell & Gifford (2010b) found that residents were more highly attached to natural than civic areas of their residential environments. Natural environments may have also become more popular because they offer respite from busy urban lifestyles. Korpela et al. (2001) found that natural places are the most commonly reported favourite place as they offer restoration, feelings of relaxation, of being away from everyday worries, a place for reflection.

However, while visitors to rural areas may find the place restorative in to it is a place to escape to, does the same apply for residents in such areas? James Rebanks (2015) author of The Shepherd’s life: A tale of the Lake District suggests not. He states “It is a unique man-made place, a landscape divided by field, walls, hedges, dykes, roads, becks, drains, barns, quarries, woods and lanes. I can see our fields and a hundred jobs I should be doing instead of idling up on the fell” (p.4).

Stedman (2006) found that attachment for second home owners in Northern Wisconsin, USA, was dependent upon different factors than permanent residents. Social ties and the community was central to permanent residents whereas for seasonal residents environmental quality and escaping their everyday lives was central. Thus, the evidence would suggest that there are different reasons for why residents and visitors to rural places become attached to it but as yet, because of the lack of research surrounding rural residents’ attachments to their residential areas, especially when compared to urban residential attachment, there is little evidence explaining why attachment occurs in these areas and how, and if, it differs from urban attachment.

For Rebanks, the collective memory and heritage of the place and is salient for the life of residents in The Lake District today.

“The past and the present live alongside each other in our working lives, overlapping and intertwining, until it is sometimes hard to know where one ends and the other starts. Each annual task is also a memory of the many times we have done it before and the people we did it with. As long as the work goes on, the men and women that once did it with us live on as
well, part of what we are doing, part of our stories and memories, part of how and why we do things” (p.28).

Burholt (2006) explains that a historical past in a place appears to deepen attachment with the place because of the occurrence of life course events in that community. Mishra et al. (2010) and Lewicka (2008) also give evidence for the importance of history in the place and attachment. Mishra et al. (2010) found that for those living in the rural area where ones ancestors lived in was part of their attachment model carried out in Orissa, India. Lewicka (2008) found that living in the same city as one’s ancestors was associated with higher attachment to the city when carrying out her study in Lviv, Ukraine and Wroclaw, Poland. In the neighbourhood attachment measure created in questionnaire one (Chapter Three), having previous generations of family in the neighbourhood did not load onto any factors and as a result was not included in the model. It may be the case that in urban areas of England where the questionnaire was carried out there are relatively high rates of mobility and thus having ancestors who lived in the same neighbourhood is not incorporated into attachment. This would seem to be the case as having family in the neighbourhood was also found to be unimportant.

When attachment in rural environments is explored it tends to be in relation to second home ownership (Jorgensen & Stedman, 2001, 2006; Stedman, 2006), farm and landowners attachment to their land (Gosling & Williams, 2010; Raymond et al., 2010), recreational experiences and attachment in rural areas (Budruk & Stanis, 2013; Kyle et al., 2004) or focuses on attachment to the surrounding ‘natural’ area rather than the residential area (Brehm et al., 2013; Smith et al., 2012; Trentelman, 2011). Often attachment in ‘natural’ rural places is studied in relation to environmental issues or change (Brehm et al., 2001; Burley et al., 2007; Devine-Wright, 2007; Vorkinn & Riese, 2001) though attachment to rural residential areas is not. Attachment to rural residential environments rather than the surrounding ‘natural’ area is a neglected area in place attachment research, as is the relationship between attachment to one’s residential area and environmental issues.

Of the research in rural residential places which has been carried out, some studies have demonstrated that residents of more rural places tend to be more highly attached to the area than urban residents to more urbanised places (Wilson & Baldassare, 1996). Krout (1988) argues that the smaller communities in rural areas allow for more social interaction among residents leading to stronger ties. Although these findings are contradicted by Theodori &
Luloff (2000) who found residents of more urban places to have higher attachment. Theodori & Luloff (2000) found that of four rural places, highest attachment was associated with the most urban community. However, rather than neighbourhood or place attachment, Theodori & Luloff (2000) were examining community attachment. It may be that residents feel more attached to a larger community. Furthermore, Amato and Zuo (1992) found that perception of social support was greater in more rural places. A high level of social support is often associated with higher attachment (e.g., Burholt, 2012; Carson et al., 2010).

Little research has been carried out exploring neighbourhood attachment in urban and rural environments simultaneously. For example, three studies were included in the review which measured attachment of both urban and rural residents. Feldman (1996) explores how attachment to types of environments leads to settlement identity where psychological bonds generalise to a specific type of environment. Gustafson (2001) explores mobility and attachment and Lewicka (2011a) applies Hummon’s (1992) theory of everyday rootedness and ideological rootedness types of attachment, to identify two types of attachment, traditional attachment and active attachment. Until now, there has not been a systematic comparison of neighbourhood attachment in different types of residential environments. This study applies the neighbourhood attachment measure constructed in Study 2 to evaluate differences in attachment in urban, semi-rural and rural residential environments.

In order to examine the relationship between attitude and behaviour and answer the question of how neighbourhood attachment affects how people look after their environment, the next step was to examine residential place attachment and its relationship with community environmental actions and personal environmental actions and everyday life more generally. Are individuals with a higher level of residential place attachment associated with carrying out a higher number of community environmental actions and/or personal environmental actions than those with a lower level of residential place attachment? The concept of everyday life has not been incorporated into environmental psychology. As routine, habits and home are central to residential place attachment, the inclusion of the concept of everyday life into residential place attachment research would undoubtedly contribute valuable knowledge to this area of research.

2.10 The concept of everyday life

Sociologists became increasingly more concerned with the social and historical importance of everyday life in the 1920s. It was introduced by philosopher Georg Lukács, who used the
concept of everyday life to talk about day-to-day social routines, although Henri Lefebvre, a French sociologist, who was influential in introducing the concept of everyday life to sociology. Lefebvre was concerned with examining social conditions in day-to-day living for those in a capitalist society (Bennet & Watson, 2002). Everyday life was originally viewed from either a macro-sociological perspective, considering how power moulds everyday social life, or a micro-sociological perspective, concerning how everyday social life develops from behaviour and culturally shared meanings and understood unwritten rules. There is now no clear distinction between these approaches. In an attempt to create a more empirically grounded approach to studying everyday life, the Chicago School researchers carried out participant observations, living among communities and becoming immersed in the day-to-day life of residents to research social groups in urban environments. Developing from the Chicago School’s work, Garfinkel (1967) introduced ethnomethodology, which is concerned with how people make sense of everyday social life in which they live (Potter & Wetherell, 1987). Everyday life is argued to consist of three related aspects according to Felski (1999-2000, cited in Jordon, 2002, p. 230) “routine, habits and home”.

This early work concerning the concept of everyday life has been extremely influential within sociology. For example, Whitehead (1976) explored gender and social relations in pubs. Young and Wilmott’s (1957) work in Bethnal Green concerned with how residents adapt to living in new communities following the move to new housing, discussed in section 2.5.2.6, is a further example. The concept of everyday life is of interest not only to sociologists, Bennet & Watson (2002) point out that it has been influential in a number of other fields, such as in cultural studies, for feminist historians, social historians and anthropologists, among others.

2.11 Personal and community environmental actions

The fourth research question of the thesis is to examine the importance of residential place attachment for community and personal environmental actions. While there is now a considerable corpus of research on examining whether residential place attachment exists, what it comprises, and what factors influence its presence, there is a much smaller body of research turning these questions on their head and examining what effect residential place

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1 The Chicago School - a group of sociologists at the University of Chicago concerned with urban sociology (The University of Chicago, 2016)
attachment, or any other type or scale of place, has on how we interact with and change our environment. In other words, what are the outcomes of residential place attachment?

Place attachment has been applied in a number of areas. This thesis focuses on the relationship between attachment to the neighbourhood and sustainable behaviours for two main reasons. Disagreement regarding whether attachment is related to sustainable behaviour participation and the urgency of addressing the issue of climate change in general. Understanding human behaviour in relation to climate change is being explored in psychology (Swim et al., 2009). However, as yet, why there is gap between environmental attitudes and knowledge and behaviour change has not been fully answered (Kollmus & Agyeman, 2002). Furthermore, understanding more fully the relationship between attachment and climate change might inform us about how changes in our environments brought about by climate change, in turn, influences attachments to those places (Devine-Wright, 2014).

Various theoretical frameworks and models have been put forward in an attempt to explain the path between environmental attitudes and the propensity to carry out sustainable behaviours. In psychology arguably the most commonly used are the Theory of Planned Behaviour (Ajzen & Fishbein, 1980), Stern’s (2000) Value-Belief-Norm model, the Model of Responsible Environmental Behaviour (Hines et al., 1986, 1987; Bamberg & Moser, 2007), the Norm activation model (Schwartz, 1977; Schwartz & Howard, 1981; Steg & De Groot, 2010), and Goal Framing theory (Lindenberg & Steg, 2007). However, Kollmus & Agyeman (2002) point out that other models have been used such as altruism, empathy and prosocial behaviour models, sociological models, economic models, social marketing models, and deliberative inclusionary processes or procedure models (p. 248). Gatersleben (2013) argues that there are various factors to be taken into consideration when measuring sustainable behaviour. What to measure, actual behaviour or the impacts of behaviour, how to measure it, through self-reports or observation, and how to conceptualise behaviours, as one-dimensional or multi-dimensional. It is likely that these considerations, or the different routes researchers take to measure sustainable behaviour indicate why there are various models which have been constructed to consider the why environmental attitudes do not simply lead to sustainable behaviour.

One argument claims that sustainable behaviours are multi-dimensional, falling into different categories of behaviours, and also a body of work is concerned with whether or not spillover occurs (e.g. Thøgersen, 1999; Thøgersen & Ölander, 2003) that is, if one behaviour, or type
of behaviour, is carried out, does it then lead to the adoption of other behaviours? According to Halpenny (2010) there is little evidence to support this argument, although Whitmarsh & O’Neill (2010) found that when behaviours were similar spill-over did occur. Gatersleben (2013) reports that measures commonly examine one type of behaviour, such as recycling (e.g. Nigbur et al., 2010; Terry et al., 1999). However, Kaiser and Wilson (2004) elected to treat sustainable behaviour as one-dimensional. They incorporated a range of types of behaviours into their measure, including: energy conservation, mobility and transportation, waste avoidance, consumerism, recycling, and social behaviours toward conservation. Kaiser and Wilson (2004) argue that focusing one type of behaviour has led to specific models being created, the result being that the research findings are segregated which tells us little about general sustainable behaviour. They point out that goal-directed behaviour is assessed more effectively over several different types of behaviours. Kaiser and Wilson (2004) report that, while their measure was found to fit a six dimensional model, the difference in fit between the multi-dimensional model and a one-dimensional model was “small and practically insignificant” (p.1542). Furthermore, the benefit of using a single dimension rather than examining the behaviours separately allows us to observe propensity to perform sustainable behaviours in general rather than focusing on one type of behaviour, which may be performed for any number of reasons, for example, recycling. One may recycle because the council provides recycling bins and will not remove additional rubbish bags rather than for environmental reasons. In the current study, the sustainable behaviour scale created by Whitmarsh and O’Neill (2010) was used. This measure includes the ‘headline behaviours’ (p.308) identified in a DEFRA (2008) review and incorporates behaviours with either high or low environmental impacts and regular as well as occasional actions. In order to obtain an indication of the scale of which participants perform sustainable behaviours, an overall sustainable behaviour score was calculated. While this does not examine individual types of behaviour, as Whitmarsh and O’Neill (2010) have done, it measures whether more highly attached residents are more likely to carry out sustainable behaviours in general, which is the question this thesis is concerned with.

By goal-directed behaviour Kaiser and Wilson (2004) refer to people performing behaviours with the intention of achieving a goal. In the case of goal directed sustainable behaviour, the goal is to benefit the environment (Gatersleben, 2013). Gatersleben compares this type of behaviour with non-goal-directed sustainable behaviour which refers to behaviour which benefits the environment but which is driven by alternative motivations, for example, walking.
to work rather than driving because it is healthier, or it is difficult to find parking, or it is habitual. Using a one-dimensional measure of sustainable behaviour is particularly useful in distinguishing between goal-directed and non-goal-directed behaviours as it is the accumulated number of behaviours which indicates propensity to carry out sustainable behaviours. However, reasons for carrying out behaviours are often not explored in questionnaires and thus, if recycling and a number of other sustainable behaviours are carried out, it would suggest the participant recycles, or at least carries out other sustainable behaviours for environmental reasons rather than for convenience, or any other reason.

Gatersleben (2013) points out that it is important to distinguish between pro-environmental and environmental behaviour. Environmental behaviour is defined as “all types of behaviour that change the availability of materials or energy from the environment or alter the structure and dynamics of ecosystems or the biosphere” (Steg & Vlek, 2009, p. 309). Thus environmental behaviour refers to behaviour which changes the environment in a negative or in a positive manner (Gatersleben, 2013). Pro-environmental behaviour is defined as “behaviour that harms the environment as little as possible, or even benefits the environment” (Steg & Vlek, 2009, p. 309, cited in Gatersleben, 2013, p. 133). Gatersleben maintains that attempts to measure environmental impact examine environmental behaviour, behaviours which harm the environment as well as those which benefit the environment, for example, Hernández et al. (2010) explored the contribution of place attachment to anti-ecological behaviours, specifically, breaking environmental protection laws, while studies which focus on the behaviours rather than the impacts of the behaviours tend to concentrate on pro-environmental or sustainable behaviours.

A number of reviews have been carried out with the intention of identifying which factors are important for the occurrence of environmental and sustainable behaviours with mixed results. Kollmus and Agyeman (2002) found environmental knowledge alone to be a poor predictor of sustainable behaviour (Kaiser & Wilson, 2004). They found values, attitudes, environmental awareness, “knowing of the impact of human behaviour on the environment” (Kollmus & Agyeman, 2002, p.253), emotional involvement, locus of control, and responsibilities and priorities to be important. They also found the availability of amenities, such as recycling bins, economic factors and cultural norms to be important. Finally, Kollmus and Agyeman (2002) also found that women and more highly educated people have more environmental awareness, although this does not reflect sustainable behaviour participation. Berenguer et al. (2005) argues that more highly educated women who live in cities, have a
liberal ideology and are religious are the most likely group to be concerned with environmental issues. Bamberg and Moser (2007) found that attitude, control, personal moral norms, awareness of the problem, internal attribution, feelings of guilt and social norms were important.

2.11.1 Self and nature

Research has explored the relationship between humans and nature, specifically how people see themselves in relation to nature. Findings suggest that the extent to which people believe humans are part of nature is related to attitudes regarding environmental issues (Schultz, et al., 2004). The majority of research exploring human-nature relationships tends to be quantitative and among the most popular scales are included The New Environmental Paradigm (NEP) (Dunlap & Van Liere, 1978; Dunlap et al., 2000), The Connectedness to Nature Scale (CNS) (Mayer & Frantz, 2004) and The Nature relatedness Scale (Nisbet et al., 2009).

2.11.2 Self and environment

While a considerable body of research has explored the human-nature relationship, little research focuses on the human-environment relationship. Bourdeau (2004) distinguishes between nature and the environment by arguing that “nature is the whole of the physical world; it is also what exists outside any human action” (p.10) whereas “the notion of environment includes always nature and culture”. It is seen as the result of the human-nature interaction “a field of reciprocal transformation of the human by the natural; and of the natural by the human” (Ost, 1995, cited in Bourdeau, 2004, p.10).

Rather than thinking about how people see themselves in association with nature, and examining this in association with sustainable behaviour, an alternative approach is to explore how people see themselves in association with the environment and assess whether this is important for the propensity to carry out sustainable behaviours. Studies 3 and 4 are concerned with people’s relationship with their residential environment and how this relates to protecting the immediate environment as well as the environment in general.

2.11.3 Attachment to place and sustainable behaviour

Studies have demonstrated mixed results with regard to whether there is a positive relationship between attachment and sustainable attitudes and behaviours. A number of studies suggest that attachment appears to be positively related to sustainable behaviours in
natural, recreational and rural settings. For example, Halpenny (2010) found that attachment predicts sustainable behavioural intentions. In a recreational setting, using the place attachment model of Kyle et al. (2003), including the dimensions place dependence and place identity, Lee (2011) examined the relationship between tourists’ place attachment to wetland areas in Taiwan. Examining both attitudes and behaviour, both attachment and recreation were found to be direct predictors of conservation commitment and environmentally responsible behaviour. Although, when multi-dimensional measures are used, it is sometimes the case that only certain dimensions of the model are found to have an association with sustainable behaviours which may lend an explanation to the inconsistent findings. With regard to attachment to a natural setting, Vaske and Kobrin (2001) using their two dimensional place attachment model which includes the dimensions, place dependence, to reflect attachment to the functional aspects of the place and place identity, to refer to emotional attachment, found youths participating in natural resource based work, such as maintaining and building trails in natural settings in Colorado found that place identity mediates the relationship between place dependence and environmentally responsible behaviours.

Brehm, et al., (2006) used a two dimensional model of community attachment, including a social dimension and a natural environment dimension to explore attachment to high natural amenity rural community areas, Star Valley, Wyoming, and Western Wayne County, Utah, USA, and local environmental concern. Their findings indicate high social attachment is linked with more socially based environmental concerns, such as, ensuring opportunities were maintained for traditional use of the land, whereas high natural environment attachment was associated with preserving the environment from change, including, maintaining areas without roads and introducing environmental protection policies. These findings would suggest elements of attachment predict participation in sustainable behaviours (Carrus et al., 2013; Scannell & Gifford, 2010a). Similar results have been found elsewhere. However, little research has been carried out which examines whether attachment to residential areas is associated with sustainable behaviour participation. Scannell & Gifford (2010b) found that while attachment to natural areas of the town was associated with sustainable behaviours, social/civic attachment to the town was not.

Some research has been carried out which examines attitudes towards sustainable behaviour and attachment to residential areas where participants are asked about their attitudes to changes, or potential changes, in the landscape caused by constructions which will assist in
mitigation against the effects of climate change. For example, Devine-Wright (2011) found residents supported construction of a tidal energy convertor reporting that the project enhanced the distinctiveness of the area, was visually familiar and contributed to climate change mitigation. Both familiarity and distinctiveness have been demonstrated to be important factors in attachment to places (Lewicka, 2008, 2010; Twigger-Ross & Uzzell, 1996). Therefore, it appears that perception that the place is being enhanced plays a significant role in whether environmental changes to the attached place are acceptable as elsewhere residents have been against proposed changes. Vorkinn & Riese (2001) found opposition to a hydropower installation by residents in the area which would be affected. McLachlan (2009) points out that policy makers must take into consideration place meaning for residents as well as perception of the proposed technology. Another factor is that contest in interpretations of attachment result in inconsistencies in findings (Scannell & Gifford, 2010a). Support for this argument is provided above where only specific dimensions of attachment are associated with sustainable behaviours and attitudes (Scannell & Gifford, 2010b).

Due to the issues outlined in Chapter Two, as with the other areas where place attachment has been applied, there is a great deal of inconsistency in the results of the studies which have been carried out examining the relationship between place attachment and the tendency to carry out sustainable behaviours. As a result of such inconsistencies, Lewicka (2011b, p.219) argues that “empirical support for a positive link between place attachment and sustainable behaviour is weak and inconsistent”.

One explanation for the discrepancy between environmental attitudes and behaviour may be due to responsibility and space. Clayton et al. (2015) indicate studies which demonstrate that direct experience of environmental issues is more highly related to attitudes and behaviours than second hand information regarding issues further afield (Rudman et al., 2013; Spence et al., 2011; Whitmarsh, 2009). However, Clayton et al. (2015) point out that other factors play a role in attitudes and behaviours. They report findings from a study which demonstrated that individuals who do not believe in global warming reported a warmer than usual summer significantly less than individuals who do believe in global warming (Howe and Leiserowitz, 2013). Devine-Wright (2013) puts forward Hulme’s (2008) argument that seeing climate change as a global problem, unrelated to the local level, results in a lack of attempts to change behaviour.
2.11.4 Community environmental actions

Here sustainable behaviours are separated into general sustainable behaviours, such as recycling or energy saving behaviours (personal environmental actions, i.e., behaviours which would impact on and be a benefit to the individual or their household) and those actions specifically intended to improve or maintain the local community or environment (community environmental actions, i.e., behaviours which would benefit the neighbourhood or local community and from which they do not exclusively obtain a benefit, or they may not receive a benefit at all as it is entirely altruistic).

That there may be a relationship between attachment to one’s environment and the propensity to behave in a sustainable manner can be traced back to Feitelson (1991) who identified that attachment to place is a pertinent factor in ability to address environmental problems. Feitelson argues that because of the ‘tragedy of the commons’. This is an argument first introduced by the economist W F Lloyd (Blowers & Smith, 2003) and expanded upon by Hardin (1968) to illustrate the conflict between exploitation and conservation of resources whereby a resource is overused in the immediate term, exhausting the resource, the effects being detrimental for the future. Feitelson argues that generally the benefits are local and the costs global. What are initially local problems then become global problems. For example, while some benefit economically from deforestation, it is a problem in general for local indigenous people with regard to, for example, habitat loss, decreased biodiversity, disrupted livelihoods and soil erosion and globally with regard to increases in carbon dioxide levels and disrupting water cycles (Nickerson, 2003).

Various theoretical arguments indicate why it should follow that higher attachment would result in higher sustainable behaviour activity. For instance, among the phenomenologists, Relph (1976, p.37) explains that place rootedness leads to “a sense of deep care and concern for that place”. He goes on to explain that Heidegger uses the term ‘sparing’ (Vycinas, 1961, p.266, cited in Relph, 2008, p.38) to refer to a sense of commitment and responsibility towards places. Sparing “is a tolerance for [places] in their own essence; it is taking care of them through building or cultivating without trying to subordinate them to human will. Sparing is a willingness to leave places alone and not to change them casually or arbitrarily, and not to exploit them” (p. 39). Brehm et al. (2013, p. 525) put forward the argument by Manzo and Perkins (2006) “people are motivated to protect places that are meaningful to them”. Carrus et al. (2014) argues that if one considers Bowlby’s (1969, 1973, 1980)
interpersonal attachment theory as a foundation for place attachment, it follows that the attached individual to a place should act protectively towards it.

Various studies have demonstrated that there is a link between attachment and protecting the environment and community one is attached to. Scannell and Gifford (2010a) in their tripartite model point to studies where residents choose to rebuild in the same threatened area after a natural disaster even when they were given the opportunity to relocate (Phillips et al., 2011), or to ignore the suggestions of planners to ensure that the town was rebuilt strongly resembling the way it had looked prior to the disaster (Francaviglia, 1978). Other research indicates that higher attachment is associated with attempts to improve the community, for example, Bailey et al. (2012) found a significant positive relationship between neighbourhood attachment to and civic activity. Although elsewhere a negative relationship between place attachment and civic activity was found Lewicka (2005) found that while social capital was significantly related to civic activity, in three of four cases place attachment was unrelated, and in the fourth instance had a negative relationship with civic activity. Thus this evidence, along with that of Brehm et al., (2006) suggests that while social attachment is associated with protection of the community while attachment to the environment is associated with environment protection. This distinction is not always made again making results inconsistent.

As yet, attachment to urban neighbourhoods and sustainable behaviours has barely been explored. However, the assumption being made here is that if attachment to a place leads to the desire to protect it, it should follow that more highly attached residents engage in community environmental actions in order to protect their neighbourhood. Berenguer et al. (2005) examined the difference in environmental concern, attitudes and sustainable behaviours between urban and rural residents. They found urban residents to have significantly greater environmental concern than rural residents. However, rural residents were found to agree more frequently than urban residents that we have a moral obligation to carry out sustainable behaviours and were also found to be more behaviourally responsible with regard to pollution and conservation behaviours. Taking into consideration attachment to the environment may help explain these apparently contradictory results.

While some studies which explore the relationship between residential environments and sustainable behaviours such as energy saving, water saving, purchasing behaviour (e.g. Scannell & Gifford, 2010b; Uzzell et al., 2002) studies which explore behaviours relating to
maintenance of the residential environments are scarce (Longhinotti-Felipe & Kuhnen, 2012; Hidalgo et al., 2015). Longhinotti-Felipe & Kuhnen, (2012) found a positive relationship between students’ place attachment to various locations in the school, such as classrooms, library, outdoor spaces, and environmental care. However, Hidalgo et al. (2015) point out that, as yet, results from the study have not been validated. The findings of Hidalgo et al. (2015) appear to contradict those of Longhinotti-Felipe and Kuhnen. They recently published a study examining the relationship between neighbourhood attachment, neighbourhood identity and neighbourhood maintenance behaviours demonstrated a significant positive relationship between neighbourhood attachment and neighbourhood identity but neither attachment nor identity have a significant relationship with neighbourhood maintenance. Elsewhere identity has been demonstrated to be important in predicting environmental behaviour (Whitmarsh & O’Neill, 2011) and Uzzell et al. (2002) found social cohesion to be a mediator between place-related social identity and sustainable behaviours as, in one neighbourhood lacking social identity, no significant relationship was found between identity and behaviour while in a second neighbourhood with high social cohesion a significant relationship was found.

2.12 Social cohesion and neighbourhood attachment
The City-Identity-Sustainability (CIS) Network (Pol et al., 2002) explored the development of social identity by examining the relationship between sense of cohesion, community identification, residents’ satisfaction and quality of the urban environment and social identity. They then in turn considered the relationship between these factors and sustainability (Pol, 2002). They employed the social cohesion model, constructed from what Turner (1987) argues are the traditional theories of identification (Pol, 2002) where it is argued that formulation of social identity is dependent on social cohesion which unites people into a group where the shared needs of the group might be met as a result of collective action (Uzzell et al., 2002). They also used the categorical identification model, built on the theories of Tajfel (1978, 1981) and Tajfel and Turner (1986), the predominant argument here being that individuals become part of a group when they identify with the dominant elements which characterise that group. Members of the group positively differentiate their group from others, which Tajfel (1978) labelled positive distinctiveness. Positive distinctiveness increases self-esteem and leads to cohesion. According to the arguments behind this model positive identification strengthens social identity which indirectly strengthens social cohesion. Overall, the CIS Network found support for their argument that without identity,
sustainability does not occur. Moreover, they found a direct effect between cohesion and sustainability (Guárdia & Pol, 2002). The findings of a study carried out by Uzzell et al. (2002) support this argument. In one neighbourhood social cohesion and place identification were found to make a significant positive contribution to identity which in turn has an effect on sustainability attitudes and behaviour. While in the second neighbourhood, although there was a positive relationship between place identification and identity, there was a weak negative relationship between social cohesion and identity as well as a negative relationship between identity and sustainability. This supports the argument put forward by Guárdia & Pol (2002, p.148) that social cohesion is “one of the main determining factors of sustainability”.

From the models used in the studies, the authors developed the general model and conclude that sustainable behaviour is linked to identity, whereby social cohesion, community identification, satisfaction, and quality of the physical area play a role (Guárdia & Pol, 2002). They argue that while it adequately explains the relationship between the factors and sustainability, other factors may be pertinent for the propensity to act sustainably. The relationship between neighbourhood attachment and sustainable behaviours is unclear. Because of the inconsistencies in defining and measuring neighbourhood attachment research findings are very mixed (e.g. Lewicka, 2005; Halpenny, 2010). Building on the arguments put forward by the CIS Network, this study aimed to identify the role of neighbourhood attachment, to explore the relationship between neighbourhood attachment, social cohesion, neighbourhood community actions and personal environmental actions and provide an answer to the question of whether place attachment explains propensity to act sustainably.

A second argument as to why social cohesion should be examined in association with neighbourhood attachment can be found if the research considering social aspects of place is considered. For example, the research of Acuña-Rivera et al. (2014), outlined in section 2.5.2.6. Acuña-Rivera et al. found social aspects of neighbourhood to be more important for determining whether a neighbourhood was safe than physical factors. If these findings are considered with regard to the present research the following key question arises. Is it the environment or the people within that environment that are more important for the occurrence place attachment and how is this related to environmental commitment?

Taking the arguments presented here into consideration, there are various possible relationships between residential place attachment and sustainable behaviour which are explored here and further in Study 4.
Residential place attachment may be directly related to community environmental actions or it may be moderated by personal environmental actions and/or social cohesion.

Residential place attachment may be directly related to personal environmental actions or it may be moderated by community environmental actions and/or social cohesion.

From researching the literature the following questions have arisen. Taking into consideration the literature, how should residential place attachment be defined and conceptualised? Considering the different perceptions of urban, semi-rural and rural environments are there differences in strength of attachment between residents of these types of places? Moreover, are there different reasons for attachment in the different types of places? Do these differences then result differences in social cohesion, propensity to carry out community environmental actions and personal environmental actions?

Figure 2.1: Possible relationships between residential place attachment, social cohesion, community environmental actions and personal environmental actions
Chapter Three

Study 1: Contrasting definitions and conceptualisations of residential place attachment in the current research literature

3.1 Introduction

By means of a systematic literature review, this chapter intends to address a serious gap in the residential place attachment research by exploring the current literature on residential place attachment, specifically its various definitions and conceptualisations, and what variables have been put forward as predictors. An initial search for studies indicated 1669 research papers for possible inclusion. Through screening processes, which are detailed below, a total of 39 studies were finally found be eligible for inclusion in the review. The systematic review aimed to explore the various definitions and conceptualisations of residential place attachment and identify how residential place attachment is measured. In addition, it aimed to discover what variables have been identified in the literature to date as being influential for the occurrence of residential place attachment. Thus, the systematic review addresses the first two aims of the thesis. Findings demonstrate that even when only one place scale is focused on there is still a considerable degree of disagreement over the definition and conceptualisation of residential place attachment which explains inconsistency in research findings. With this in mind, the findings of the systematic review reinforce the argument that a systematic measure of residential place attachment needs to be constructed in order to address the inconsistencies in the attachment literature if the role of residential place attachment is to be applied effectively in research and policy decisions.

Until now, a systematic analysis of the studies concerned with one type of place scale has not been carried out. This systematic review attempts to address part of this gap in the research. It focuses on one scale of place, the neighbourhood. Moreover, it is concerned with determining what factors are argued to be important for the development of attachment in neighbourhoods. Finally, it compares urban settings with more rural settings to explore differences in reasons for attachment in different types of neighbourhoods (urban, semi-rural and rural).
The systematic review addresses the first two aims of the thesis, which are to:

1. Contrast definitions and conceptualisations of residential place attachment.
2. Discover what variables have been identified as being instrumental for the occurrence of residential place attachment.

In order to contrast definitions and conceptualisations of residential place attachment efficiently firstly, definitions, terms used to refer to the people-place relationship and conceptualisations were contrasted and then considered in relation to epistemological and theoretical backgrounds. Particular focus was given to whether researchers consider residential place attachment as only an affective bond or whether other aspects of the people-place relationship are incorporated in definitions and conceptualisations as this may be salient in explaining why inconsistencies in research findings exist. Variables measured in association with residential place attachment were identified and whether these were found to be significantly related to attachment noted in order to consider inconsistencies in research findings. For example, what the different contexts are for when socio-demographics are decisive or not. Quantitative and qualitative studies included in the systematic review were then contrasted with regards to definitions and conceptualisations of residential place attachment. Examining the quantitative and qualitative studies separately initially was found to be the most logical method. Finally, why researchers consider residential place attachment to be salient was explored.

3.2 Method

In order to contrast different definitions and conceptualisations of residential place attachment and identify what variables are considered pertinent for determining residential place attachment, a thorough evaluation of the research literature surrounding residential place attachment was deemed necessary.

A meta-analysis is a statistical technique which enables researchers to evaluate the findings from a group of quantitative studies which investigate the same research question in order to calculate an overall effect size for (Field, 2013). A systematic review is also a method which investigates a body of studies examining the same topic in order to summarise findings, consider what overall findings suggest, assist in the consideration of why studies examining the same question draw different conclusions, and guide future research (Petticrew & Roberts, 2006). Meta-analyses and systematic reviews are argued to be the most appropriate
methods for examining a large body of literature (Petticrew & Roberts, 2006). However, in social science, meta-analysis is generally considered the more rigorous method as it uses statistical methods to synthesize the data. Specifically, a meta-analysis enables an overall effect size to be determined which has the advantage of applying a precise mathematical examination of the data (Borenstein et al., 2009). Petticrew & Roberts (2006) point out that because effect sizes from each of the studies are synthesised, this results in substantially more statistical power and as a result, similarities and differences between the findings of the individual studies become more meaningful.

Nevertheless, meta-analysis is restricted in that it can only be applied to quantitative findings and so eliminates the entire body of qualitative literature including potentially important findings. In addition, it can only effectively be applied to studies with findings that are similar conceptually, and which are analysed in similar statistical ways (Lipsey & Wilson, 2001). Indeed, Petticrew and Roberts (2006, p.205) suggest that it should only be applied when the included studies consider “an identical conceptual hypothesis”. Findings from multivariate statistical analyses, such as multiple regression or factor analysis, cannot be included as they are too complex and no effect size statistics have been developed which can represent these types of analyses (Lipsey & Wilson, 2001).

A systematic review is more appropriate when the quality of the data (typically quantitative) is not so ‘robust’. According to Wright et al. (2007), the advantage of a systematic review over a meta-analysis is that a wider range of inclusion criteria can be incorporated. In a meta-analysis the criteria for inclusion are narrow, as dissimilar studies cannot be considered together. A systematic review is not as restrictive with regards to research questions, methods and analyses. Additionally, it is possible to include both quantitative and qualitative studies.

In this paper, the primary reason for selecting a systematic review rather than a meta-analysis was the limitations of the research base of studies in neighbourhood attachment for a meta-analysis. The aim of the systematic review is to contrast definitions and conceptualisations of residential place attachment and, therefore, studies included in the review address different research questions, employ different methods, including qualitative methods, use different residential place attachment measures and data analysis techniques, including factor analysis.

Notwithstanding this, there are disadvantages to systematic reviews which must be considered. The most obvious criticism is that the results of a systematic review can be argued to be less powerful than those of a meta-analysis as an overall effect size cannot be
computed (Gough et al, 2012). Unfortunately, this problem cannot be avoided. However, while it was not possible in the present study to compare the strength of the relationship between the variables found to be important for determining neighbourhood attachment, these variables were then combined to create a neighbourhood attachment measure which then made it possible to identify the most pertinent variables (see Study 2). This may in some way address the criticism of systematic reviews being weaker than meta-analyses because they do not give a mathematically robust finding. The questionnaire to systematically measure residential place attachment, developed in Study Two, will be presented and discussed in Chapter Four.

A further potential problem of systematic reviews is the issue of bias. “The file drawer problem” (Rosenthal, 1979, p.638) refers to the occurrence of publication bias. In other words, studies which show significant results tend to be published while those which show non-significant results do not. Although Rosenthal first highlighted this issue in 1979 it still holds today that studies including non-significant results are under-represented in journals (Petticrew & Roberts, 2006). This was not considered a significant obstacle in the present study as the objective of the study is not to examine whether a bond between people and places exists, but rather to identify what the factors most strongly related to residential place attachment are according to the existing research. Place attachment is already an accepted phenomenon; for instance, since Place Attachment by Altman and Low was published in 1992, “the importance of place attachment has become well established” (Manzo and Devine-Wright; 2014, p.1). The purpose of the current study is to examine differences in definitions and conceptualisations of neighbourhood attachment, and what factors are argued to be salient for the bond to develop.

3.2.1 Inclusion/exclusion criteria

In order to address the aims of the study to be addressed as efficiently as possible, the following boundaries were specified:

1. Only studies published in peer reviewed journals were included. Studies which have been published in books, in journals which are not peer reviewed or which have not been published were not included. Because it is generally accepted that neighbourhood attachment is a salient construct, this study is not concerned with confirming that it exists, but rather with identifying what arguments there are as to why it exists, definitions,
conceptualisations and variables which are thought to be important for its development; thus, the file drawer problem is not an issue here.

2. Only studies concerned with adult neighbourhood attachment were included. Studies which examine neighbourhood attachment in children and adolescents were excluded. Research has demonstrated that the strength and dimensions of attachment to place differ between children, adolescents and adults (Pretty et al., 2003).

3. Studies concerned with community attachment and sense of community were only included if attachment to the physical environment is considered. They were excluded if the focus was only on the social group in the place rather than the place itself (Glynn, 1986; Colombo et al., 2001). As neighbourhood attachment describes the bond between people and place, studies which do not examine this relationship are not relevant for the present review.

4. Studies including a consideration of what neighbourhood attachment or another place related concept were included. Those which did not include a discussion or explanation of what the researcher considered neighbourhood attachment to be were not. The justification of this being that a consideration of differences in definitions and conceptualisations of neighbourhood attachment is central to the review. This excluded some studies which explored the effect of residential place attachment on other phenomena. For example, Dekker (2007) examined the role of residential place attachment and social capital towards participation. Similarly, Barrow and Harrison (2005) were concerned with the role of neighbourhood attachment in caregiving.

5. Only studies which consider an affective dimension were included. An affective bond to place is considered central to the place attachment concept (Hummon, 1992; Low & Altman, 1992; Scannell & Gifford, 2010a). Those which do not examine an affective bond were excluded. To illustrate, Hugh-Jones and Madill (2009) examine place identity but as affect is not considered the study was excluded.

6. Only studies published in English were included. It was not possible to include those not published in English. This may exclude important studies, and it is a sad reflection on the hegemony of the English language in the scientific world. Unfortunately the resources were not available to include studies in other languages.

3.2.2 Process

Firstly, the databases ASSIA and SCOPUS were searched to verify that a systematic review concerning neighbourhood attachment had not been carried out. As neighbourhood
attachment is also sometimes given the label “place attachment”, or included as one part of a more general concept, known as “sense of place”, for example, and has also been argued to contribute to place identity (e.g. Bailey et al., 2012; Brown et al., 2003, 2004), it was decided that it would be more efficient to search for systematic reviews carried out on place attachment, place identity and sense of place, and if so, determine whether they incorporate a body of literature concerned with neighbourhood attachment. Why neighbourhood attachment is given various labels will be discussed in The Discussion to this chapter. When carrying out the database searches, the key search terms included: “place attachment” OR “place identity” OR “sense of place” OR place and “systematic review” or review. It was found that no review concerning neighbourhood attachment had been carried out.

The next step was to conduct searches of the aforementioned databases in order to locate potential studies for inclusion in the review. The following search terms were used:

1. place OR neighbo?rhood OR urban OR rural (37616 results)
2. attach* OR bond OR identity (21427 results)

The function of the question mark in the first search ensures inclusion of both British English and American English spellings of neighbourhood. The asterisk in the second search enables a search on all words beginning with attach, such as; attached, attachment. It allows for one inclusive search to be carried out.

To narrow down the studies in order to find those concerned with neighbourhood and attachment, the searches were then combined.

3. place OR neighbo?rhood OR urban OR rural AND attach* OR bond OR identity (1669 results)

The titles and abstracts of the 1669 studies were read. 1200 were immediately rejected as the information provided in the title and/or abstract revealed they would not be suitable for inclusion in the review. This was determined by relevance of research question or aims and place type or scale being investigated.

Following this, 469 studies from 28 journals remained which were potentially relevant for inclusion in the review. The studies were retrieved from The University of Surrey library website, if available online, or paper copies were accessed in the University of Surrey library or requested from The British Library. When requested from the British Library these were delivered electronically within a few days.
The 469 studies were then examined in greater depth and information was stored in two locations. Firstly, a Microsoft Excel spreadsheet contained some information from these studies including: authors, date of publication, journal, topic of study, methods, data analysis. The purpose of the spreadsheet was for quick access and comparison. Following inputting information into the Excel spreadsheet, a Data Extraction Form was completed for each study to gather more information from the paper which would then be used to compare studies. This included seven sections. Section A included administration details such as authors, date, and whether it was linked to any other studies included in the review such as being carried out by the same researchers. Section B stated the research question and aims. Section C recorded information regarding how attachment was measured and what was examined in association with attachment. Section D gathered information about participants, data collection and analysis were included in Sections E and F. Overall results and conclusions were recorded in Section G, and notes regarding the quality of the study with regards to methods and data analysis were recorded in Section H.

While the Excel spreadsheet was completed for all 469 studies, the Data Extraction Form was only completed fully if the study was suitable for inclusion. Completion of the form was terminated if the study was found to be unsuitable for inclusion in the systematic review and the reason for exclusion was recorded in the Excel spreadsheet.

When studies were found to be suitable, in order to find further potential studies, which may have been overlooked when searching the databases, the references were checked. When studies which might be suitable for inclusion were found the articles were accessed through the University of Surrey library or The British Library and then subjected to the screening process described above.

A total of 39 studies were retained for inclusion in the review. A considerable number of studies were excluded during the in depth screening process because they did not meet the inclusion criteria. The most common reasons for excluding studies at this point were because they were not concerned with the physical aspect of place, only the social (e.g., Jennings & Krannich, 2013; Neal & Watling Neal, 2014); Wood et al., 2010), in others it was difficult to determine the place scale from only reading the abstract, and only further investigation determined that it was not a neighbourhood (e.g., Raymond et al., 2011).

The 39 studies were then explored in further depth to record whether the study location was an urban or rural environment, what label was given to the people-place bond, the theoretical
background and how attachment is conceptualised, and what the authors argue study contributes to the residential place attachment research. The information extracted at each stage of analysis was used to contrast the studies in the results and discussion of the systematic review.

3.3 Results

The 39 studies included in the review (Table 3.1) were categorized into two groups, those which use quantitative methods and those employing qualitative methods. The studies were grouped in this way primarily for analysis feasibility. It was far more practical to initially contrast studies which use similar methods, particularly when dimensionality of neighbourhood attachment was being considered. Following the evaluation of quantitative and qualitative studies separately, the findings of both parts were then compared. A total of 31 studies examine neighbourhood attachment using quantitative methods. Of these, 26 examined attachment in urban neighbourhoods, three examined attachment in rural neighbourhoods (Burholt, 2012 (9); Mishra et al., 2010 (26); Stedman, 2006 (34)) and two studies (Gilheard et al., 2007 (13) & Lewicka, 2011 (23)) include participants from urban, semi-rural and rural environments, as they used representative samples of the population with regard to community size, among other criteria, although the analyses do not explore differences between the various environments. Eight studies examine neighbourhood attachment using qualitative methods. Three studies carried out their studies in urban neighbourhoods (Anguelovski, 2013 (3); Livingston et al., 2010 (24); Twigger-Ross & Uzzell, 1996 (36)), three in rural neighbourhoods (Amsden et al., 2011 (2); (29) Rogan et al., 2005; Rowles, 1983 (31)) and two in urban and rural neighbourhoods (Feldman, 1996 (12) & Gustafson, 2001 (16)).

The first aim of the systematic review is to address definitions and conceptualisations of residential place attachment. As discussed in the introduction, research concerning people-place relationships is of interest in various disciplinary fields. In the current review, studies have been included by researchers from environmental and social psychology (e.g. Twigger-Ross & Uzzell, 1996 (36); Bonaiuto et al., 1999 (6); Hidalgo & Hernández, 2001 (18)), sociology (Bolan, 1997 (5); Greif, 2009 (15)), anthropology (Woldoff, 2002 (38)), urban geography (Williams et al., 2010 (37)), architecture and planning (Kamalipour et al., 2012

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2 The numbers following study dates are used for all studies included in the systematic review. They indicate the number of the study in the systematic review.
The majority of the studies are from researchers with a social science background.

Table 3.1: Table presenting study authors and number.

<table>
<thead>
<tr>
<th>Study Nom.</th>
<th>Author(s)</th>
<th>Study Nom.</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aiello et al. (2010)</td>
<td>21</td>
<td>Lewicka (2008)</td>
</tr>
<tr>
<td>2</td>
<td>Amsden et al. (2011)</td>
<td>22</td>
<td>Lewicka (2010)</td>
</tr>
<tr>
<td>3</td>
<td>Anguelovski (2013)</td>
<td>23</td>
<td>Lewicka (2011a)</td>
</tr>
<tr>
<td>6</td>
<td>Bonaiuto et al. (1999)</td>
<td>26</td>
<td>Mishra et al. (2010)</td>
</tr>
<tr>
<td>9</td>
<td>Burholt (2012)</td>
<td>29</td>
<td>Rogan et al. (2005)</td>
</tr>
<tr>
<td>13</td>
<td>Gilleard et al. (2007)</td>
<td>33</td>
<td>Skjæveland et al. (1996)</td>
</tr>
<tr>
<td>17</td>
<td>Hernández et al. (2007)</td>
<td>37</td>
<td>Williams et al. (2010)</td>
</tr>
<tr>
<td>20</td>
<td>Kimpton et al. (2014)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In order to find what definitions have been put forward for neighbourhood attachment as well as in what different ways it is being conceptualised, the studies were firstly examined to find what terms were being used to label the relationship between residents and their neighbourhood. As well as neighbourhood attachment, various terms have been used to refer to the relationship between people and their neighbourhood. Place attachment or attachment
to place, local attachment, community attachment, sense of community, and sense of place are all terms given to the people-place relationship in the studies included in the review.

The most common term used in the studies included in the review is ‘place attachment’ where it is used in twenty of the thirty-nine studies (See Tables 3.4 & 3.6). As discussed, researchers are interested in attachment to various environmental settings and various scales, from attachment to possessions in our homes to international attachment (Low & Altman, 1992) and it is presumably for this reason that in the remaining studies included here more specific terms have been used, neighbourhood attachment being the most common, where it is used in eleven studies, although local attachment, community attachment, and neighbourhood sentiment have also been used. While there are various terms being used, the next step is to consider whether they are being used to refer to the same phenomenon.

Through examining the definitions and explanations of attachment given in the studies included in the review it is clear that affective or emotional ties are central to the concept. All of the explanations include at least this element, for example, Górny & Toruńczyk-Ruiz (2013 (14), p.2) define neighbourhood attachment as “positive emotional ties with the residential area”. Similarly, Bailey et al. (2012 (4)) define place attachment as “a positive affective bond or association between individuals and their residential environment” (Shumaker & Taylor, 1983, p. 233, cited in Bailey et al., 2012, p. 208). Even as long ago as 1992 Low & Altman found affective bonds to be important for the occurrence of place attachment. Subsequent research has shown affect is central.

Whether the bond to the neighbourhood is given the label ‘place attachment’, ‘neighbourhood attachment’, or any of the other terms, it appears that researchers are referring to a very similar aspect of the relationship. The explanations of Górny & Toruńczyk-Ruiz (2013 (14)) and Bailey et al. (2012 (4)) also illustrate overlap between the terms used to describe the affective ties between people and their environment. Indeed, researchers using the term neighbourhood attachment refer to place attachment when outlining the background to the research (Bonaiuto et al., 1999 (6); Mesch & Manor, 1998 (25)).

Nine definitions of residential place attachment (or other terms) include that the affective bond is positive, for example, place attachment “involves positively experienced bonds” (Brown & Perkins, 1992, p.284, cited in Aiello et al., 2010 (1), p, 265) and “A positively affective bond between an individual and a specific place” (Hidalgo & Hernández, 2001 (18), p.274). Definitions can also be found in Tables 3.4 & 3.6.
A number of definitions include that as well as affective ties, behavioural and/or cognitive ties are part of attachment. For example, Feldman (1996 (12), p.421) argues place attachments are “patterns of conscious and unconscious ideas, feelings, values, and behavioural tendencies that related the identity of a person to the geographical locale”, while Livingston et al., (2010 (24), p.411) maintain that place attachment “can take two forms: functional (or practical) attachment and emotional attachment” and that these are usually related.

A number of researchers draw directly on Altman and Lows’ (1992) argument who consider that place attachment is a multi-faceted concept composed of aspects which are interrelated yet inseparable. They claim that central to the concept of place attachment is the affective relationship with place, although cognition and behaviour are important (e.g., Gustafson, 2001 (16); Kimpton et al., 2014 (20); Lewicka, 2008 (21)).

Other aspects of the people-place relationship are sometimes incorporated in definitions, for example, Hidalgo & Hernández (2001 (18)) argue that the desire to remain close to the place one is attached to is central to attachment to that place. This aspect has not been considered in any of the other definitions included in the review although Hidalgo & Hernández (2001 (18)) point out that it is evident in many operationalisations and this is demonstrated in Table 3.1 which illustrates variables included in the various attachment measures. Measures include items inquiring into how the participant feels when temporarily away from the neighbourhood, for example, “I miss it when I am not here” (Lewicka, 2008 (21), p.229).

Brown et al. (2003 (7), p. 332) include that attachment is “dynamic”. Again, this aspect of attachment is not considered in many other definitions included here (cf. Burholt, 2012 (9); Feldman, 1996 (12)). This may be because place attachment measures are generally concerned with the present level of attachment and another neglected area is that neighbourhood attachment has not been considered longitudinally in any depth though this would give considerable insight into why and under what conditions attachment increases and decreases.

Social aspects within the place are incorporated into some definitions (e.g. Anguelovski, 2013 (3); Bonaiuto et al., 1999 (6); Burholt, 2012 (9)). For example, “Place attachment involves dynamic but enduring positive bonds between people and prized socio-physical settings, such as homes” (Brown & Perkins, 1992, cited in (7) Brown et al., 2003 (7), p. 259).
What these examples demonstrate is that, while there is a general consensus that neighbourhood attachment, place attachment, local attachment, and so on, describe an affective bond between people and their residential area, beyond that there is no clear agreement. Furthermore, even when the same term is used, definitions vary. This is explored further in the next section where conceptualisations of attachment are discussed.

Thirty-one of the thirty-nine studies included in the review explore the people-place relationship using quantitative methods. Lewicka (2011b) argues that the majority of place attachment studies employ questionnaires. Thus it is no surprise that there are considerably more quantitative studies included in the systematic review.

It is clearly difficult to compare the results of quantitative and qualitative studies, but this review tries to ascertain where, and under what conditions, residential place attachment is realised, drawing on the findings of both quantitative and qualitative studies. Quantitative studies were examined initially. Firstly, because they made up the majority of studies included in the systematic review. Secondly, because of the structure of quantitative studies, determining how residential place attachment is conceptualised and measured can be more easily identified. It was more feasible to use the quantitative results as guidance to identify similarities and differences between the types of studies.

3.3.1 Quantitative studies

Being that there is no consistency in how attachment is labelled and defined, as discussed in section 3.2, it follows that there is also no agreement regarding how to measure it. As Tables 3.2 and 3.3 show, place attachment is considered by researchers to be either a one-dimensional or a multi-dimensional construct. Hernández et al. (2014) have organised these conceptualizations into three groups. These groups will be explained in association with studies included in this review:

1) Where attachment is seen as a subordinate dimension of an overarching concept, such as neighbouring, as in the model put forward by Skjæveland et al. (1996 (33)) who state that “neighbouring involves positive and negative aspects of social interactions, expectations, and attachments of individuals with the people living around them and the place in which they live” (p. 418). Skjæveland et al. (1996 (33)) argue that the dimensions include; supportive acts of neighbouring, which refers to mutual personal and practical support between neighbours, neighbour annoyance, including noise, irritation and safety issues, neighbourhood attachment (defined in Table 3.4), and weak social ties.
2) Where attachment is a superordinate, overarching concept with other dimensions contributing to it. For example, Burholt (2012 (9)) put forward a three dimensional of place attachment, the dimensions which contribute to place attachment include a social factor, focusing on social interaction, an aesthetic factor, and appropriateness of resources and the environment. In contrast, Mishra et al. (2010 (26)) also put forward a three dimensional model of place attachment the dimensions including, a genealogical dimension, an economic dimension, and a religious dimension.

3) Where place is related (not hierarchically) to other concepts. For example, Lewicka (2008 (21)) argues that place attachment and place identity are different, though related phenomena. She gives Proshansky’s (1978, p. 147) definition of place identity as “those dimensions of self that define the individual’s personal identity in relation to the physical environment”.

Place attachment is commonly argued to be important for the development of identity (e.g., Bailey et al., 2012 (4); Brown et al., 2003(7), 2004(8); Lewicka, 2008 (21); Twigger-Ross and Uzzell, 1996 (36)).
In the present review the organisational structure of Hernández et al. (2014) was partially adopted. The studies were grouped into two categories: a) those which consider attachment as a one-dimensional construct, and b) those which consider it as multi-dimensional (either as a superordinate concept or a subordinate dimension). This was found to be an effective and inclusive way of organizing them.

### 3.3.1.1 Variables identified as instrumental for residential place attachment

In addressing the first research question, the second thesis aim is to identify what variables have been put forward as being instrumental for the occurrence and development of residential place attachment. Conceptualisations of neighbourhood attachment differ considerably in the studies. A range of variables are included in the attachment measures demonstrating that there is little consistency with regards to how residential place attachment is constructed.

Tables 3.2 and 3.3 list the variables included in the various quantitative place attachment measures. To illustrate, in Table 3.2 the first variable is “Attached”. The table shows that studies 6 (Bonaiuto et al., 1999), 7 (Brown et al., 2003), 8 (Brown et al., 2004), 11 (Comstock et al., 2010), 14 (Górny & Toruńczyk-Ruiz, 2013), and 39 (Wu, 2012) contain an item or items about feeling attached to their neighbourhood, for example, “There are places in the neighbourhood to which I am very emotionally attached” (Bonaiuto et al., 1999 (6), p.352; Comstock et al., 2010 (11), p.438).
Table 3.2: Variables included in one-dimensional place attachment measures (17 studies)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Study Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotions regarding place</strong></td>
<td></td>
</tr>
<tr>
<td>Attached</td>
<td>6, 7, 8, 11, 14, 39</td>
</tr>
<tr>
<td>Feel part of place/place is part of them/belonging</td>
<td>1, 4, 6, 11, 13, 14, 21, 22, 23, 30, 39</td>
</tr>
<tr>
<td>Rooted</td>
<td>23</td>
</tr>
<tr>
<td>Positive emotions/ sentiment (ideal neighbourhood, favourite place, happy, enjoy living there)</td>
<td>1, 4, 6, 11, 21, 22, 30, 32, 34</td>
</tr>
<tr>
<td>Pride</td>
<td>7, 8, 14, 21, 22, 23, 25</td>
</tr>
<tr>
<td>Pride in community</td>
<td>20</td>
</tr>
<tr>
<td>Feelings when temporarily away</td>
<td>21, 22, 23, 25, 32, 34</td>
</tr>
<tr>
<td>Feelings about leaving</td>
<td>1, 6, 7, 8, 11, 14, 21, 22, 23, 25, 30, 32</td>
</tr>
<tr>
<td>Plans to stay</td>
<td>20, 25</td>
</tr>
<tr>
<td>Familiarity</td>
<td>21, 22</td>
</tr>
<tr>
<td>Best place to do things I enjoy</td>
<td>34</td>
</tr>
<tr>
<td><strong>Identity with place</strong></td>
<td></td>
</tr>
<tr>
<td>Identity</td>
<td>34</td>
</tr>
<tr>
<td><strong>Social Aspects</strong></td>
<td></td>
</tr>
<tr>
<td>Social ties</td>
<td>14</td>
</tr>
<tr>
<td>Social ties and continuity</td>
<td>23</td>
</tr>
<tr>
<td>Social ties and safety</td>
<td>14</td>
</tr>
<tr>
<td>Social ties and identity</td>
<td>1, 30</td>
</tr>
<tr>
<td>Social ties and belonging</td>
<td>20</td>
</tr>
<tr>
<td><strong>Involvement</strong></td>
<td></td>
</tr>
<tr>
<td>Desire to be involved</td>
<td>21, 22, 23</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td></td>
</tr>
<tr>
<td>Safety</td>
<td></td>
</tr>
<tr>
<td>Safety/security</td>
<td>21, 22, 23</td>
</tr>
</tbody>
</table>

*Studies 7 and 8 are by the same authors (Brown et al., 2003 (7), 2004 (7)) and use the same attachment measure.

*Studies 21, 22 and 23 are by the same author (Lewicka, 2008, 2010, 2011a). Studies 21 and 22 use the same attachment measure. Study 23 uses a similar measure.

*Studies 1, 6 and 11 are by different authors (Aiello et al., 2010 (1); Comstock et al., 2010 (11); Bonaiuto et al, 1999 (6)) but all use the neighbourhood attachment measure of Bonaiuto et al. (1999).
Table 3.3: Variables included in multi-dimensional place attachment measures (14 studies)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Study Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotions regarding place</strong></td>
<td></td>
</tr>
<tr>
<td>Attached/tied/connected</td>
<td>33, 35, 37, 38</td>
</tr>
<tr>
<td>Belonging/ feel part of neighbourhood</td>
<td>10, 28, 35</td>
</tr>
<tr>
<td>Rooted</td>
<td>37</td>
</tr>
<tr>
<td>At home</td>
<td>27, 33, 37, 38</td>
</tr>
<tr>
<td>Positive emotions (important to be there, means a lot)</td>
<td>26, 27, 37</td>
</tr>
<tr>
<td>Pride</td>
<td>26</td>
</tr>
<tr>
<td>Memories</td>
<td>26</td>
</tr>
<tr>
<td>Feelings about leaving</td>
<td>5, 10, 17, 18, 19, 37, 38</td>
</tr>
<tr>
<td>Plans to stay</td>
<td>27, 28, 37</td>
</tr>
<tr>
<td><strong>Social Aspects</strong></td>
<td></td>
</tr>
<tr>
<td>Social ties (friends/family in neighbourhood)</td>
<td>9, 10, 27, 33, 35, 37</td>
</tr>
<tr>
<td>Close-knit neighbourhood</td>
<td>15, 27</td>
</tr>
<tr>
<td>Know/talk to neighbours</td>
<td>5, 9, 10, 15, 27, 28, 33, 35, 37, 38</td>
</tr>
<tr>
<td>Socialise with/visit neighbours</td>
<td>10, 15, 33, 35, 38</td>
</tr>
<tr>
<td>Confidants</td>
<td>10, 27, 33, 38</td>
</tr>
<tr>
<td>Mutual social support/trust/work together</td>
<td>9, 10, 15, 26, 27, 33, 35, 38</td>
</tr>
<tr>
<td>Shared values</td>
<td>27, 35</td>
</tr>
<tr>
<td>Have a long history with community (LOR)</td>
<td>9, 26</td>
</tr>
<tr>
<td>Would miss neighbours if I or they moved away</td>
<td>17, 18, 19, 37</td>
</tr>
<tr>
<td><strong>Involvement/Influence/Efficacy</strong></td>
<td></td>
</tr>
<tr>
<td>Local association/organisation/groups</td>
<td>5, 9, 10, 15, 26, 37, 38</td>
</tr>
<tr>
<td>Ability to influence neighbourhood decisions</td>
<td>10, 27</td>
</tr>
<tr>
<td>Community influences decisions affecting me</td>
<td>10</td>
</tr>
<tr>
<td>Wish to be involved in decision making</td>
<td>10</td>
</tr>
<tr>
<td>Sense of responsibility for neighbourhood</td>
<td>35</td>
</tr>
<tr>
<td><strong>Economic</strong></td>
<td></td>
</tr>
<tr>
<td>Financial ties/investment (work, own home)</td>
<td>26, 28, 38</td>
</tr>
<tr>
<td>Financial support</td>
<td>26</td>
</tr>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
</tr>
<tr>
<td>Satisfaction with neighbourhood</td>
<td>5, 15, 35, 38</td>
</tr>
<tr>
<td><strong>Distinctiveness</strong></td>
<td></td>
</tr>
<tr>
<td>Comparison of neighbourhood with others</td>
<td>37, 38</td>
</tr>
<tr>
<td><strong>Safety</strong></td>
<td></td>
</tr>
<tr>
<td>Feelings of safety</td>
<td>10, 33, 35</td>
</tr>
<tr>
<td>Crime level</td>
<td>9</td>
</tr>
<tr>
<td>Dangerous places</td>
<td>35</td>
</tr>
<tr>
<td><strong>Aesthetic</strong></td>
<td></td>
</tr>
<tr>
<td>Beautiful landscape, space, quiet, climate</td>
<td>9</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td></td>
</tr>
<tr>
<td>Health of neighbourhood as a place to live</td>
<td>10</td>
</tr>
<tr>
<td>Factors influencing health</td>
<td></td>
</tr>
<tr>
<td>Green space/ environmental problems</td>
<td>37</td>
</tr>
<tr>
<td>Social problems and safety</td>
<td>37</td>
</tr>
</tbody>
</table>
Table 3.4: Quantitative studies presented according to dimensionality. Terms and definitions included.

<table>
<thead>
<tr>
<th>Term</th>
<th>Study</th>
<th>Definition of attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>One-dimensional</strong></td>
<td></td>
<td>Dimensions included in model (for multi-dimensional models)</td>
</tr>
<tr>
<td>Place attachment</td>
<td>(4) Bailey et al. (2012)</td>
<td>Use definition of place attachment put forward by Shumaker &amp; Taylor (1983, p. 233, cited in Bailey et al., 2012, p. 208) as “a positive affective bond or association between individuals and their residential environment”.</td>
</tr>
<tr>
<td></td>
<td>(7&amp;8) Brown et al. (2003, 2004)</td>
<td>“Place attachment involves dynamic but enduring positive bonds between people and prized socio-physical settings, such as homes” (Brown &amp; Perkins, 1992. Cited in, Brown et al., 2003, p.259).</td>
</tr>
<tr>
<td></td>
<td>(17) Hernández et al. (2007)</td>
<td>“Place attachment is an affective bond that people establish with specific areas where they prefer to remain and where they feel comfortable and safe” (p. 310).</td>
</tr>
<tr>
<td></td>
<td>(20) Kimpton et al. 2014)</td>
<td>“Although there is no agreed definition of place attachment, many scholars view it as a pro-social good that represents the bond between individuals and their affectively important locations (Altman &amp; Low, 1992; Scannell &amp; Gifford, 2010b; Lewicka, 2011b)” (p. 479).</td>
</tr>
<tr>
<td></td>
<td>(21,22,23) Lewicka (2008, 2010, 2011a)</td>
<td>“Place attachment refers to bonds that people develop with places (Giuliani, 2003; Hidalgo &amp; Hernandez, 2001; Low &amp; Altman, 1992; Manzo, 2003; Pretty et al., 2003; Williams et al., 1992)”. The three components of place attachment are: “affective, cognitive, and behavioural (Jorgensen &amp; Stedman, 2001; Kyle et al., 2004; Low &amp; Altman, 1992)” (p.211)</td>
</tr>
<tr>
<td></td>
<td>(30) Rollero &amp; De Piccoli (2010)</td>
<td>“Place attachment is a multifaceted and complex phenomenon that incorporates different aspects of people-place bonding and involves the interplay of affect and emotions, knowledge and beliefs, and actions in reference to a place (Altman &amp; Low, 1992; Chow &amp; Healey, 2008; Rollero &amp; De Piccoli, 2010)” (p.234).</td>
</tr>
<tr>
<td></td>
<td>(34) Stedman</td>
<td>Stedman argues that place attachment, along with place identity and place dependence are</td>
</tr>
<tr>
<td>Reference</td>
<td>Year</td>
<td>Definition or Description</td>
</tr>
<tr>
<td>-----------</td>
<td>------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Stedman (2006)</td>
<td></td>
<td>Incorporated in the superordinate construct, sense of place. However, Stedman only examines the place attachment dimension in his (2006) study.</td>
</tr>
<tr>
<td>Neighbourhood attachment</td>
<td>Aiello et al. (2010, 1)</td>
<td>Refers to Brown and Perkins (1992) who argue that place attachment “involves positively experienced bonds, sometimes occurring without awareness, that are developed over time from the behavioural, affective, and cognitive ties between individuals and/or groups and their sociophysical environment” (p. 284, cited in Aiello et al., 2010, p. 265).</td>
</tr>
<tr>
<td></td>
<td>Bonaiuto et al. (1999)</td>
<td>“Place attachment involves positively experienced bonds, sometimes occurring without awareness, that are developed over time from the behavioural, affective, and cognitive ties between individuals and/or groups and their socio-physical environment. These bonds provide a framework for both individual and communal aspects of identity and have both stabilizing and dynamic features” (Brown &amp; Perkins, 1992, p. 284. Cited in Bonaiuto et al., 1999, p.332)</td>
</tr>
<tr>
<td></td>
<td>Comstock et al. (2010)</td>
<td>“Neighbourhood attachment is a social-psychological process that captures one’s emotional connection to his or her social and physical surroundings” (Brown, Perkins, &amp; Brown, 2003. Cited in, Comstock et al., 2010, p.435).</td>
</tr>
<tr>
<td></td>
<td>Górny &amp; Toruńczyk-Ruiz (2013)</td>
<td>Neighbourhood attachment - “positive emotional ties with the residential area (see for example, Altman and Low, 1992; Bonaiuto et al., 1999; Lewicka, 2008; Bailey et al., 2012). Being ‘concerned with the psychological meaning of the environment for a person or group’, (Taylor et al., 1985, p.526)” (p.2)</td>
</tr>
<tr>
<td></td>
<td>Ruiz et al. (2011)</td>
<td>“Place attachment implies affective bonds between people and their surroundings, and is nourished through daily encounters with neighbours, personalization and feelings toward the neighbourhood (Brown &amp; Werner, 1985; Werner et al., 1993)” (p. 2)</td>
</tr>
<tr>
<td></td>
<td>Wu (2012)</td>
<td>No definition given. The neighbourhood attachment measure used asks the respondent if he/she has a sense of attachment or belonging for the neighbourhood.</td>
</tr>
<tr>
<td>Attachment to place</td>
<td>Gillear et al. (2007)</td>
<td>Refers to feeling attached as “becoming bound” (p.591) to the neighbourhood.</td>
</tr>
<tr>
<td>Local attachment</td>
<td>Mesch &amp; Manor (1998)</td>
<td>“Place attachment refers is a positive affective bond that develops between individuals or group their environment (Altman &amp; Low, 1992). It is a state of psychological well-being</td>
</tr>
</tbody>
</table>
experienced as a result of the accessibility of place or a state of distress set up by the remoteness of a place (Giuliani, 1991). Place attachment refers to the emotional linkage of an individual to a particular environment (Hunter, 1978). In that sense, the study of place attachment is the study of emotional investment in a place” (pp. 504-506).

<table>
<thead>
<tr>
<th>Attachment as a superordinate construct</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place attachment</strong></td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>


communities, and their physical environments” (Low and Altman, 1992; Mazumdar, 2005; Mazumdar & Mazumdar, 1993, 2004. Cited in Mishra et al., 2010, p.187). Includes the dimensions; genealogical (feeling pride and belonging in neighbourhood, memories and ancestors), economic (work and investment), and religious attachment (importance of spiritual places and a place to worship.

<table>
<thead>
<tr>
<th>Neighbourhood attachment</th>
<th>References</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(5) Bolan (1997)</td>
<td></td>
<td>Includes the dimensions; attitudinal attachment (evaluation (satisfaction with neighbourhood) and sentiment (emotional attachment)) and behavioural attachment (interaction (interaction with other residents) and involvement (participation in community organisations)).</td>
</tr>
<tr>
<td>(10) Carson et al. (2010)</td>
<td></td>
<td>Neighbourhood attachment refers to the psychosocial or perceptual elements of the people-place relationship (neighbourhood involvement refers to behavioural elements. Includes the dimensions; membership, influence and emotional bonds.</td>
</tr>
<tr>
<td>(15) Greif (2009)</td>
<td></td>
<td>Incudes the dimensions; attitudinal attachment (satisfaction and sentiment) and behavioural attachment (neighbouring and participation).</td>
</tr>
<tr>
<td>(38) Woldoff (2002)</td>
<td></td>
<td>Includes the dimensions; attitudinal attachment (evaluation and sentiment), behavioural attachment through neighbouring (routine neighbouring activities and social interaction with neighbours) and behavioural attachment through problem solving (formal and informal).</td>
</tr>
</tbody>
</table>

Community attachment

<table>
<thead>
<tr>
<th>References</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(28) Riger &amp; Lavrakas (1981)</td>
<td>Argue neighbourhoods provide a sense of belonging for those who live there. Includes the dimensions; physical rootedness and social bonding.</td>
</tr>
</tbody>
</table>

**Attachment as a subordinate dimension**

<table>
<thead>
<tr>
<th>Sense of community</th>
<th>References</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(27) Pendola &amp; Gen (2008)</td>
<td></td>
<td>Define sense of community as “the sense that one was part of a readily available, mutually supportive network of relationships upon which one could depend” (Sarason, 1974, p. 1. Cited in Pendola &amp; Gen, 2008, p.546). Following a factor analysis, the authors conclude that sense of community includes the dimensions; place attachment (importance of place, plans to stay, belonging), mutual concerns, social connections</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neighbouring</th>
<th>References</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(33) Skjæveland</td>
<td></td>
<td>Place attachment or rootedness is a dimension of neighbouring. It refers to “positively</td>
</tr>
<tr>
<td>Source</td>
<td>Method/Concept</td>
<td>Description</td>
</tr>
<tr>
<td>--------</td>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Brown &amp; Perkins (1992)</td>
<td>Neighbouring</td>
<td>Experienced bonds which neighbours develop with their sociophysical environment (p. 417). “Affective bonds are interrelated with the social and cognition components of neighbouring” (p. 417). Neighbouring involves positive and negative aspects of social interactions, expectations, and attachments of individuals with the people living around them and the place in which they live (p. 418). Includes the dimensions; supportive acts of neighbouring, neighbour annoyance, neighbourhood attachment and weak social ties.</td>
</tr>
<tr>
<td>Taylor (1996)</td>
<td>Local attachment (Attachment-involvement)</td>
<td>“Attachment to place refers to a recognised positive bond between an individual or group and their locale (Shumaker &amp; Taylor, 1983)” (p. 42). Includes the dimensions; Attachment-involvement (attachment to place and social involvement). Taylor’s model also includes responses to disorder, termed resistance versus accommodation (vigilance and changing behaviour because of fear).</td>
</tr>
<tr>
<td>Williams et al. (2010)</td>
<td>Sense of place</td>
<td>Sense of place refers to “the attitudes and feelings that individuals and groups hold vis-à-vis the geographical areas in which they live (Gregory et al., 2009). It further commonly suggests intimate, personal, and emotional relationships between self and place” (Wylie, 2009, p. 676). Sense of place is therefore used here to simultaneously refer to geographical place, social community/environment, and having psychoanalytic meaning (p. 906). The model includes the dimensions; neighbourhood rootedness, neighbourhood sentiment, neighbours, environment/health.</td>
</tr>
</tbody>
</table>
3.3.1.2 Definitions and conceptions of residential place attachment

When dimensionality is considered, that is, whether residential place attachment is considered a one-dimensional or multi-dimensional construct, if the quantitative studies which use the term “neighbourhood attachment” are examined (Table 3.4), in six cases, neighbourhood attachment is treated as a one-dimensional construct (e.g., Bonaiuto et al., 1999 (6); Ruiz et al., 2011 (32)), in four as a superordinate construct (e.g., Bolan, 1997 (5); Greif, 2009 (15)), and in one case it is treated as a subordinate dimension of “neighbouring” (Skjæveland et al., 1996 (33)). Similarly, where the term “place attachment” is used, in nine cases, it is treated as a one-dimensional construct (e.g., Brown et al., 2003 (7), 2004 (8); Stedman, 2006 (34)), in five as a superordinate construct (e.g. Burholt, 2012 (9); Mishra et al., 2010 (26)), and in one case it is treated as a subordinate dimension of “sense of community” (Pendola & Gen, 2008 (27)). “Local attachment” is referred to twice and is treated as a one-dimensional construct (Mesch & Manor, 1998 (25)) and as a superordinate construct (Taylor, 1996 (35)). “Attachment to place” is used once as a one-dimensional construct (Gilleard et al., 2007 (13)), “Community attachment” is referred to once and is treated as a superordinate construct (Riger & Lavrakas, 1981 (28)). There is one instance of “neighbourhood sentiment” as a subordinate dimension of “sense of place” (Williams et al., 2010 (37)).

The role of affect, cognition and behaviour in residential place attachment

To highlight the differences in research according to epistemologies, the studies using the term “neighbourhood attachment” were contrasted with regards to dimensionality. One-dimensional measures tend to focus on the affective relationship (e.g., Bailey et al., 2012 (4); Kimpton et al., 2014 (20)), whereas multi-dimensional models acknowledge that as well as affect, cognition and/or behaviour play a role in attachment (e.g., Burholt, 2012 (9); Low & Altman, 1992; Scannell & Gifford, 2010b). However, cognitive and behavioural aspects have been demonstrated to be imperative to attachment for researchers employing one-dimensional measures of attachment also. Brown and Perkins (1992) state in their definition of attachment that affective, cognitive and behavioural ties are important, though in subsequent studies included in the review (Brown et al., 2003 (7), 2004 (8)) a one-dimensional place attachment measure is employed. As do Aiello et al. (2010 (1)), who use the neighbourhood attachment measure of Bonaiuto et al. (1999 (6)) to examine the relationship between affective, cognitive and behavioural aspects of the people-place relationship. Bonaiuto et al. (1999 (6)) agree that
attachment is multi-dimensional. However, Bonaiuto et al. (1999 (6)) found that the multi-dimensional scale which they created (Bonaiuto et al., 1996) worked as a one-dimensional scale and thus has been employed in this way in subsequent studies. Bonaiuto et al. (1999 (6)) point out that this illustrates that attachment measures need improving in order to more efficiently measure attachment.

**Residential place attachment as a one-dimensional construct**

**Emotions**

Table 3.2 demonstrates that, in general, one-dimensional attachment measures are restricted to inquiring about emotions about the neighbourhood, such as feeling attached (e.g., Bonaiuto et al., 1999 (6); Comstock et al., 2010 (11)) or a sense of belonging (e.g., Aiello et al., 2010 (1); Wu, 2012 (39)). This is in line with the finding that affect is considered to be central to the concept of neighbourhood attachment, while multi-dimensional measures are more inclusive.

While negative emotions are included in some attachment scales, for example, “I don’t like this place” (Lewicka, 2008 (21)), “I would willingly live in another neighbourhood” (Aiello et al., 2010 (1); Bonaiuto et al., 1999 (6); Comstock et al., 2010 (11)), negative attachment is not considered at length. Some research suggests more negative feelings are associated with lower attachment, for example, Brown et al. (2003 (7)) found that place attachment is lower for residents in neighbourhoods where they perceive more incivilities, and where there are more observed incivilities, have a greater fear of crime and a lower sense of neighbourhood cohesion and control. On the other hand, Woldoff (2002) found that physical disorder, such as the incivilities Brown discusses, had no effect on attachment. However, Woldoff (2002) did find that social disorder, such as a lack of cohesion between neighbours due to neighbours not getting on or not trusting neighbours, was related to lower attachment to the neighbourhood.

**Feelings of pride**

Items reflecting feelings of pride regarding living in the neighbourhood is included in seven of the 17 one-dimensional studies (e.g., Brown et al., 2003 (7), 2004 (8); Górny & Toruńczyk-Ruiz; 2013 (14)), for example, “I am proud of this place” (Lewicka, 2008 (21), p.229).
**Familiarity**

The item “I know the place well” is included in Lewicka’s (2008 (21), p.229, 2010 (22)) measure, although not included in the adapted measure used in her 2011 study.

**Other aspects of people-place relationships**

Although for the most part, one-dimensional measures of residential place attachment are concerned with the affective, emotional relationship to the neighbourhood, other aspects of people-place relationships were found in some one-dimensional measures.

**Identity and residential place attachment**

Items intending to measure identity was found in one, one-dimensional attachment measure (Stedman, 2006 (34), p.196). They read, “It reflects the type of person I am”, and “Everything about it is a reflection of me”. However, Stedman (2006 (34)) argues that sense of place is multi-dimensional but following a factor analysis found it to fit into a one-dimensional model.

Two studies include items which intend to measure social identity, that is, identity with other people in the neighbourhood. “I identify with the people of this neighbourhood” was included (Aiello et al., 2010 (1); Rollero & De Piccoli, 2010 (30)) taken from the neighbourhood attachment measure of Bonaiuto et al. (2003, p.50), although was not included in the earlier neighbourhood attachment measure of Bonaiuto et al. (1999 (6)).

**Social aspects**

While social aspects of the relationship with place are included in one-dimensional models of attachment, for example, Górny & Toruńczyk-Ruiz (2013 (14), p. 8) include “I would miss the people in my neighbourhood if I moved”, in general, social ties are not commonly included in one-dimensional models. When social ties are included, there is overlap between other areas (see Table 3.2). As well as social ties and identity, and social ties and continuity, discussed above, an item incorporating social ties and belonging “I feel that I belong to this community” is included by Kimpton et al., (2014 (20), p. 483). Górny & Toruńczyk-Ruiz (2013 (14), p. 8) include an item containing aspects of social ties and safety “The people in my neighbourhood make me feel safe here”.

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**Involvement**

The desire to be involved in what goes on in the community is included in only one, one-dimensional attachment measure (Lewicka, 2008 (21), p.229, 2010 (22), 2011a (23)) with the item “I want to be involved in what is going on here”.

**Safety**

Only one, one-dimensional attachment measure includes an item measuring residents’ perception of safety (Lewicka, 2008 (21), p.229, 2010 (22), 2011a (23)) with “I feel secure here”.

**Residential place attachment as a multi-dimensional construct**

**Emotions**

Multi-dimensional measures of residential place attachment are more inclusive than one-dimensional measures. They are not restricted to only enquiring about emotions with regard to the neighbourhood but tend to include social and behavioural aspects of the relationship with place (e.g., Skjæveland et al., 1996 (33)).

With regard to negative emotions, Woldoff’s (2002 (38)) results contradict those of Brown et al. (2003 (7)). Where Brown et al. (2003 (7)) concluded that incivilities and fear of crime were associated with lower attachment in their one-dimensional measure of attachment, Woldoff (2002 (38)), using a multi-dimensional measure of attachment, found that being a victim of crime, and perception of crime on the neighbourhood had no effect on attachment levels. Physical disorder in the neighbourhood, such as poor housing or abandoned buildings, is associated with lower attitudinal attachment, that is, satisfaction with the neighbourhood and sentiments about the neighbourhood, Woldoff (2002 (38)) found no effect on behavioural attachment, that is, relationships with neighbours and group problem solving. Social disorder, such as feelings that neighbours cannot be trusted or where neighbours do not get along, is associated with lower neighbourhood attachment. These findings suggest that good social relationships are salient for neighbourhood attachment. The findings also suggest that fear and incivilities are only influential on certain aspects of residential place attachment.
Other aspects of people-place relationships

Other aspects of people-place relationships are far more commonly included in the multi-dimensional measures of residential place attachment than the one-dimensional measures.

Identity and residential place attachment

Identity is not incorporated in the multi-dimensional measures of attachment used in the systematic review. Where identity is included in studies, it is measured as a separate construct from attachment (e.g., Hidalgo & Hernández, 2001 (18); Ruiz et al., 2011(32)).

Feelings of pride, efficacy and distinctiveness

While feelings of pride is a relatively common variable to include in one-dimensional attachment measure, it is found in only one multi-dimensional measure included in the systematic review. Mishra et al. (2010 (26), p.192) include “I feel very proud of staying at this place”.

Items tapping influence or efficacy were included in four multi-dimensional measures (Carson et al., 2010 (10); Pendola & Gen, 2008 (27); Taylor, 1996 (35); Woldoff, 2002 (38)), for example, Woldoff (2002 (38)) asked residents whether they had taken various actions in order to tackle neighbourhood problems and reduce or avoid crime in the ‘problem solving’ dimension of their neighbourhood attachment scale. Similarly, “If there is a problem in my neighbourhood people who live in it can get it solved” is included in the dimension labelled, ‘mutual concerns’ of Pendola and Gens’ (2008 (27), p. 564) sense of community measure.

Finally, distinctiveness was included in some multi-dimensional measures where residents were asked whether their neighbourhood was better than other neighbourhoods (Williams et al., 2010 (37); Woldoff, 2002 (38)).

Social aspects

Social aspects of the relationship with place are common in multi-dimensional attachment models and so are more commonly conceptualised as being important for the development of attachment, for example, a social dimension is included as a subordinate dimension of the overarching concept place attachment (e.g., Burholt, 2012 (9); Hernández et al., 2007 (17)), or as a subordinate dimension, along with place attachment and mutual concerns of the overarching concept sense of community (Pendola & Gen, 2008 (27)).

Involvement and efficacy
In contrast to one-dimensional measures of residential place attachment, wanting to be involved in the community is included in seven multi-dimensional measures (e.g., Burholt, 2012 (9); Woldoff, 2002 (38)). For example, Greif (2009 (15)) inquires as to whether residents participate in neighbourhood meetings.

As well as items which tap involvement in the community, some measures are concerned with feelings of efficacy, for example, “You can influence decisions that affect your community” (Carson et al., 2010 (10), p.267).

Economics

One aspect of the relationship with place which was only evident in multi-dimensional measures of attachment was economic ties to the neighbourhood. Having financial ties to the neighbourhood was included in three measures (Mishra et al., 2010 (26); Riger & Lavrakas, 1981 (28); Woldoff, 2002 (38)). Riger & Lavrakas (1981 (28)) inquire whether residents own or rent their home. Woldoff (2002 (38)) asks whether buying a place to live in the neighbourhood is a good financial investment. Mishra et al. (2010 (26)), following a factor analysis, include economic place attachment as a dimension of their place attachment model, including six items referring to the ownership of land, working in the neighbourhood and being able to rely on friends for financial support if need be.

Satisfaction

As with economics, satisfaction not included in one-dimensional measures of attachment. Satisfaction with the neighbourhood is included in four multi-dimensional attachment measures (Bolan, 1997 (5); Greif, 2009 (15); Taylor, 1996 (35); Woldoff, 2002 (38)). All inquire into general satisfaction with the neighbourhood, for example, “How satisfied are you with your neighbourhood?” (Greif, 2009 (15), p.33).

Safety

Items measuring perceived safety and crime were included in five multi-dimensional measures. Taylor’s (1996 (35), p.57) study was regarding local attachment and responses to disorder. It included five items concerned with fear of crime, for example, “How safe would you feel being out alone in your neighbourhood at night?” In the other studies which include safety as an aspect of residential place attachment, measures include one item tapping feelings of safety, for example, “How safe do you feel from crime in your neighbourhood, generally?” (Carson et al., 2010 (10)).
**Aesthetics**

Only one study included in the systematic review considers aesthetic features of the neighbourhood pertinent for residential place attachment. Burholt (2012 (9), p.2905) was investigating reasons for attachment in older people living in rural places. She found that “Being surrounded by beautiful physical landscape”, as well as feeling that there is space and the place is quiet, loaded on to a factor labelled ‘aesthetic attachment to place’.

**Health**

Two multi-dimensional measures included health in the attachment measure. “How healthy would you rate your neighbourhood as a place to live” was included in the ‘membership’ component of the neighbourhood attachment measure of Carson et al. (2010 (10)). Williams et al. (2010, p.931) included four items in the ‘environment/health’ component of their sense of place measure, including for example, “Environmental problems in my neighbourhood influence my health”.

**3.3.1.3 Variables being measured as predictors of residential place attachment**

Table 3.5 includes variables included in the quantitative studies of the systematic review which were measured as predictors of residential place attachment. That is, they were not assumed to be part of the concept of residential place attachment as with the variables included in Tables 2.2 and 2.3, but are included in studies to evaluate their effect on residential place attachment. Variables are separated into those being measured in association with residential place attachment as a one-dimensional model and those being measured in association with attachment as a multi-dimensional model.

Using the first variable in the table to illustrate, studies one and two (Aiello et al., 2010 (1); Bailey et al., 2012 (4)) as well as sixteen other studies wanted to examine whether gender has an effect on attachment levels. Furthermore, the table includes whether the results demonstrated a significant relationship. In this case, Aiello et al. (2010) found no significant difference between men and women and levels of attachment while Bailey et al. (2012 (4)) found women to be significantly more highly attached than men.

Of the socio-demographic variables, age, gender and education are most commonly included. Generally, the studies demonstrate that as age increases, attachment also increases. A significant relationship was found in 68% of the 22 studies which include age as a predictor. It is sometimes argued that age is associated with higher levels of attachment as length of
residence also contributes (Comstock et al., 2010 (11)). However, Gilleard et al. (2007 (13)) found that while age and attachment are positively correlated, attachment decreases slightly in their 71-80 age group. Bolan (1997 (5)) included three age groups: 18-29, 30-39, 40-49 and found age was positively related to attachment in only the 30-39 group. In the other groups age had a negative association with attachment.

Of the twenty studies which included gender as a variable, 50% found women demonstrated significantly higher attachment than men, while 50% found no significant difference. Of the sixteen studies which included education 25% found a positive significant relationship with attachment while 19% demonstrated a significant negative relationship (total 44%). The results of the relationship with age, gender, and education, as well as the other variables, such as marital status, or ethnicity/race reflect the inconsistencies found in general in place attachment research findings.

Length of residence is the most commonly included variable overall. Of the twenty-three studies which included length of residence as a predictor of attachment, 70% found it was significantly positively related.

Social aspects of residential experience are commonly included and relationships is demonstrated to be crucial for attachment. Of the ten studies which include relationship/contact with neighbours, 80% found a significant positive relationship with attachment. Similarly, of the five which included social ties, 50% found a significant positive relationship. Shared values, support and trust, for example, are consistently found to be significant in the studies where they have been included.

Variables which reflect community behaviours demonstrate residents engage in various community behaviours including social activities such as clubs concerned with various hobbies (Lewicka, 2011a (23)), recreational and physical activities, for example, gardening (Comstock et al., 2010 (11)) and civic groups, Neighbourhood community groups (Riger & Lavrakas, 1981 (28)), for instance.
Table 3.5: Variables included as predictors of residential place attachment

<table>
<thead>
<tr>
<th>Variable</th>
<th>One-dimensional Study Number</th>
<th>Multi-dimensional Study Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual variables</strong></td>
<td>Included in study</td>
<td>Significant association with attachment</td>
</tr>
<tr>
<td><strong>Demographics</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender (Female)</td>
<td>1, 4, 6, 8, 20, 21, 22, 23, 25, 30, 34, 39</td>
<td>4, 6, 20, 23, 25, 39</td>
</tr>
<tr>
<td>Age (Increasing*1)</td>
<td>1, 4, 6, 8, 13, 20, 21, 22, 23, 25, 30, 34, 39</td>
<td>4, 6, 13, 20, 22, 23, 39</td>
</tr>
<tr>
<td>Ethnicity/race *2</td>
<td>4, 7, 8, 11</td>
<td>4, 7, 8</td>
</tr>
<tr>
<td>Marital status (Married *3)</td>
<td>8, 20, 25</td>
<td>20</td>
</tr>
<tr>
<td>Housing tenure (Owner *4)</td>
<td>4, 7, 11, 20, 22, 25</td>
<td>4, 7, 20</td>
</tr>
<tr>
<td>Type of house (small)</td>
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<td>28</td>
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<tr>
<td>Affordable, better quality housing</td>
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<td>8</td>
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<tr>
<td>Type of neighbourhood (More affluent)</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>Household number (Low)</td>
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<td>6</td>
</tr>
<tr>
<td>Children in household (Having children at home)</td>
<td>4, 8, 20, 25</td>
<td>4</td>
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<tr>
<td>Caregiver of children</td>
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<td>10</td>
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<tr>
<td>Education*5</td>
<td>1, 4, 6, 11, 21, 23, 25, 34, 39</td>
<td>23, 39</td>
</tr>
<tr>
<td>Income*6</td>
<td>6, 8, 20</td>
<td>6</td>
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<tr>
<td>Social Class</td>
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<td>Occupation</td>
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<tr>
<td>Employed*</td>
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<tr>
<td>Religion (Latter Day Saints)</td>
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</tr>
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</table>

**Residential experience**

<table>
<thead>
<tr>
<th>Variable</th>
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<tr>
<td>Satisfaction</td>
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<td></td>
</tr>
<tr>
<td>Affective qualities*</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opportunities</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plans/willingness to stay</td>
<td>39</td>
<td>39</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>Length of residence</td>
<td>1, 4, 6, 7, 11, 13, 20, 21, 22, 23, 25, 32, 34, 39</td>
<td>4, 6, 11, 13, 20, 21, 22, 23, 39</td>
<td>5, 10, 15, 17, 19, 27, 33, 37, 38</td>
<td>5, 15, 17, 19, 27, 33, 38</td>
</tr>
<tr>
<td>Length of residence city (&amp; island for 17)</td>
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<td>6</td>
<td>17</td>
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</tr>
<tr>
<td>Place of birth*</td>
<td>20, 21</td>
<td></td>
<td>15, 17, 37</td>
<td>15, 17, 37</td>
</tr>
<tr>
<td>Generation in place</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Time spent per day</td>
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<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local employment</td>
<td></td>
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<td>15</td>
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<tr>
<td>Urban reminders</td>
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<tr>
<td>Mobility*</td>
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<td>23</td>
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<tr>
<td>Well-being</td>
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<td>Health</td>
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<td>Perceived safety*</td>
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<td>4, 7, 25</td>
<td>10, 15, 28</td>
<td>15, 28</td>
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<td>Perceived crime* (Neg)</td>
<td>4, 25</td>
<td>4, 25</td>
<td>19, 38</td>
<td>19, 38</td>
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<td>Victim of crime (Neg)</td>
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<td>15, 38</td>
<td>15, 38</td>
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<tr>
<td>Social/physical incivilities (Neg)</td>
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<td>7, 8, 25</td>
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<tr>
<td>Place identity*</td>
<td>21, 23</td>
<td>21, 23</td>
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<tr>
<td>Place attachment with other types*</td>
<td>23</td>
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<tr>
<td>Interest in place history</td>
<td>21, 23</td>
<td>21, 23</td>
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<tr>
<td>Interest in family history</td>
<td>23</td>
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<tr>
<td>Knowledge of place history</td>
<td>21</td>
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<tr>
<td>Place meaning</td>
<td>23, 34</td>
<td>23, 34</td>
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<tr>
<td>Flood preparedness</td>
<td>26</td>
<td>26</td>
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<td>Automobile use (Neg)</td>
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**Social aspects**

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<tr>
<th>Relationship/contact with neighbours</th>
<th>1, 6, 7, 11, 23, 25, 34</th>
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<th>10, 19, 28</th>
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<td>14, 20, 22, 25, 34</td>
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<tr>
<td>Sense of community</td>
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<tr>
<td>Feeling of belonging</td>
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<td>Friends in neighbourhood</td>
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<td>7, 25, 34</td>
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<td>Local kin</td>
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<td>Self –efficacy</td>
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<td>Work together to solve problems/ collective efficacy/social cohesion</td>
<td>4, 11, 23</td>
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<td>Social support</td>
<td>4, 7, 11</td>
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<td>Social well-being</td>
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<td>Trust</td>
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<td>4, 23</td>
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<td>Close-knit neighbourhood</td>
<td>4, 11</td>
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<td>Values*15</td>
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<td>Desire to be involved in making neighbourhood changes</td>
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<td>Social activity</td>
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<td>1, 23</td>
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<td>participation</td>
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<td>1, 23, 34</td>
<td>4, 7, 8, 23, 34</td>
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<td>Recreational activities*16</td>
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<tr>
<td>Physical activity</td>
<td>11, 23</td>
<td>11, 23</td>
<td>10</td>
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<td>Property related activities</td>
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<td>Voluntary activity participation</td>
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<td>23</td>
<td>10, 15</td>
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<td>Civic activity participation</td>
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<td>(meetings/organisations)</td>
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<td><strong>Physical aspects</strong></td>
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<td>Local services</td>
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<td>Local amenities</td>
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<td>Architecture &amp; planning space</td>
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<td>Social spaces</td>
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<td>Open spaces</td>
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<td>Green space</td>
<td>1, 6, 8, 20, 25</td>
<td>1, 6, 8, 25</td>
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<td>Quiet</td>
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<td>Attracted to neighbourhood</td>
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<tr>
<td>Neighbourhood has main street</td>
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<tr>
<td>Ease of accessibility</td>
<td>1, 6</td>
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<tr>
<td><strong>Neighbourhood variables</strong></td>
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<td>Ethnic composition (Neg)</td>
<td>4, 14</td>
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<td>15, 35</td>
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<tr>
<td>Country of birth density</td>
<td>20</td>
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<td>Housing tenure</td>
<td>4, 20</td>
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<tr>
<td>Type &amp; size of housing*</td>
<td>22</td>
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<tr>
<td>Presence of safety precautions</td>
<td>22</td>
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<td>Population density</td>
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<td>Socio-economic status</td>
<td>4, 13, 20</td>
<td>13, 20</td>
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<td>Education</td>
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<td>Neighbourhood stability</td>
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<td>4</td>
<td>15, 35</td>
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<tr>
<td>Neighbourhood deprivation (Neg)</td>
<td>4</td>
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<tr>
<td>Observed incivilities (Neg)</td>
<td>7, 8, 11, 22</td>
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<td>19, 35</td>
<td>19, 35</td>
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<tr>
<td>Crime (Pos)</td>
<td>11, 20</td>
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<td>Maintenance</td>
<td>6, 8</td>
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<td>19</td>
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<tr>
<td>Collective efficacy</td>
<td>11</td>
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</tr>
</tbody>
</table>

*1 13 – Attachment increases with age until 50 to 70 age group but slightly lower in 71 to 80 group than 50 to 70 group. 5 – 18-29 and 40-49 age groups negative association with attachment, 30-39 positive relationship (no other age groups included)

*2 Ethnicity/race – 4 – Asian significantly higher attachment, 7 & 8 – White, non-Hispanic significantly lower attachment, 28 – Black significantly higher attachment, 38 – African Americans significantly higher attachment

*3 Marital status - 5 – Divorced/separated higher attachment, 10 & 20

*4 Housing tenure – 20 where renter had higher attachment

*5 Education – 23, 28, 37 – Negative association with attachment

*6 Income – 6 – lower income associated with higher, attachment, 28 – higher income associated with higher attachment, 5 – Negative association with Evaluation dimension of attitudinal attachment, <$15,000 positive association with sentiment dimension (N/S with behavioural attachment)

*7 Employed – 4 – Employed associated with higher attachment, 37 – unemployed associated with higher attachment, 38 – workers higher than unemployed & retired

*8 Affective qualities – 1 - Significant – arousing, gloomy (negative). Non-sig – pleasant, unpleasant, relaxing, distressing, sleepy, exciting. Also satisfaction measure includes relaxing vs distressing & stimulating vs boring – non-significant
Place of birth – 17 – natives higher attachment, 37 – immigrants higher attachment
Mobility – 5 – Higher attachment associated with more moves and with moving less distance (locally). No significant relationship between attachment and length of time devoted to move with the exception of sentiment dimension where attachment is higher for those devoting more time to the move. ‘Neighbourhood’ and ‘housing needs’ as reasons to move associated with higher attachment than ‘family reasons’. 23 – Higher attachment associated with fewer number of moves.
Perceived safety – 15 - Negative
Crime & victim of crime for 38 – Positive
Place identity – 21 – Significant association between attachment and city district and region place identity, but not city, country, nation, Europe, world, human being place identity
Place attachment with other types – 23 – traditional attachment, active attachment (positively related with neighbourhood attachment) alienation, place relativity, placelessness (negatively related with neighbourhood attachment)
Values – 23 – Two value scales used Conservatism – open to change, and self-enhancement – self-transcendence. Traditionally attached significantly higher conservatism and actively attached significantly higher open to change. Both traditionally and actively attached significantly higher in self-transcendence.
Recreational activities – 1 – Leisure activities have a significant positive association with attachment while purchasing, sporting and cultural activities do not have a significant association with attachment.
Type & size of housing – 23 – Size of building has a negative association with attachment. Relationship between type of housing and attachment is very specific to research area in Poland as types of buildings are specific. Living in a post war apartment block was negatively associated with attachment, as was living in a gated community. Living in a family house was positively associated with attachment.
3.3.2 Qualitative studies

3.3.2.1 Definitions and conceptualisations

As with the quantitative studies, there is disagreement regarding how to refer to the people-place bond. Table 3.6 shows that while ‘Place attachment’ is the most common term (e.g., Anguelovski, 2013 (3); Feldman, 1996 (12)), used in four of the eight studies, ‘neighbourhood attachment’ (Livingston et al., 2010 (24)) and ‘attachment to place’ (Rowles, 1983 (31)) are also used. In the final two studies, the authors report that place attachment is a component of the superordinate construct, ‘Sense of place’ (Amsden et al., 2011 (2); Rogan et al., 2005).

As with quantitative studies, an affective or emotional bond to place is central to definitions of residential place attachment. For example, “Emotional attachment to locales” (Rowles, 1983 (31), p. 299). In most cases, other aspects of the bond between people and place are acknowledged in the definition, for example, Gustafson (2001 (16)) refers to cognitive and behavioural bonds. Feldman (1996 (12), p.421) reports that place attachments are “ideas, feelings, values, and behavioural tendencies”. Rogan et al. (2005, p.147) argue that place attachment is “emotive component” of sense of place. Overall, the definitions presented here are more similar to quantitative definitions which argue residential place attachment to be a multi-dimensional rather than one-dimensional construct (See, for example, the definitions put forward by Burholt (2012 (9)), Riger & Lavrakas (1981 (28)) and Williams et al. (2010 (37))).
Table 3.6: Terms and definitions of residential place attachment employed in qualitative studies

<table>
<thead>
<tr>
<th>Study</th>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>(2) Amsden et al. (2011)</td>
<td>Sense of place</td>
<td>“Place attachment, as a component of a larger sense of place, can be highly personal, incorporating individual interactions with the surrounding world. Yet because people connect the events of their own lives to the workings of society (Mills, 1959), their attachment to place has a social component as well” (p.33)</td>
</tr>
<tr>
<td>(3) Anguelovski (2013)</td>
<td>Place attachment</td>
<td>“Place attachment, as the affective bond between people and places” (Low &amp; Altman, 1992), can rest on physical features and settings (i.e., the built environment as well as social dimensions (Scannell &amp; Gifford, 2010b)…Place attachment stems from accumulated life experiences and from attributing an emotional meaning to neighbourhoods through an interactive and culturally shared process (Milligan, 1998)” (Anguelovski, 2013, p.214).</td>
</tr>
<tr>
<td>(12) Feldman (1996)</td>
<td>Place attachment</td>
<td>Place attachments are relatively enduring, yet changeable psychological structures: that is, patterns of conscious and unconscious ideas, feelings, values, and behavioural tendencies that relate the identity of a person to a geographic locale, and provide dispositions for future engagement with this place” (p.421).</td>
</tr>
<tr>
<td>(16) Gustafson (2001)</td>
<td>Place attachment</td>
<td>“Place attachment refers primarily to affective, but also cognitive and behavioural, bonds between individuals or groups and one or several places (Altman &amp; Low, 1992)” (p.668).</td>
</tr>
<tr>
<td>(24) Livingston et al. (2010)</td>
<td>Neighbourhood attachment</td>
<td>“Place attachment refers to ‘the bonding of people to places’ (Low &amp;Altman, 1992). Attachment can take two forms: functional (or practical) attachment and emotional attachment” (p.411).</td>
</tr>
<tr>
<td>(29) Rogan et al. (2005)</td>
<td>Sense of place</td>
<td>“Sense of place is generally conceived of as an overarching concept, articulating the relationship between people and place and providing a valuable framework with which to explore the relationship between the biophysical environment and the wellbeing of its inhabitants (Jorgensen &amp; Stedman, 2001; Stedman,</td>
</tr>
</tbody>
</table>
A wealth of terms have emerged within the concept of sense of place to describe people’s involvement with their surroundings, although the key focus has been on place identity (Proshansky et al., 1983) and place attachment (Altman & Low, 1992). In order to link these concepts, Jorgensen & Stedman (2001) proposed an attitudinal model, articulating place identity as the cognitive component and place attachment as the emotive component” (p. 147).

<table>
<thead>
<tr>
<th>Source</th>
<th>Description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>(31) Rowles (1983)</td>
<td>Attachment to place</td>
<td>“Emotional attachment to particular locales” (p.299)</td>
</tr>
</tbody>
</table>
### 3.3.2.2 Comparing qualitative and quantitative studies

Table 3.7: Table illustrating variables included in conceptualisations of residential place attachment reported in qualitative and quantitative studies

<table>
<thead>
<tr>
<th>Aspect of attachment</th>
<th>Qualitative</th>
<th>Quantitative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emotions regarding place</strong></td>
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<td></td>
</tr>
<tr>
<td>Emotional attachment/ connection/ bond</td>
<td>2, 3, 12, 16, 24, 29, 31, 36</td>
<td>6, 7, 8, 11, 14, 33, 35, 37, 38, 39</td>
</tr>
<tr>
<td>Sense of belonging/ insideness/ place as home</td>
<td>12, 29, 31</td>
<td>1, 4, 6, 10, 11, 13, 14, 21, 22, 23, 28, 30, 35, 39</td>
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<tr>
<td>Positive emotions/ meaning</td>
<td>2, 3, 12, 29, 36</td>
<td>1, 4, 6, 11, 21, 22, 26, 27, 30, 32, 34, 37</td>
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<td>Pride</td>
<td>2, 3, 36</td>
<td>7, 8, 14, 21, 22, 23, 25, 26</td>
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<tr>
<td>Memories</td>
<td>31</td>
<td>26</td>
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<tr>
<td>Sense of familiarity</td>
<td>3, 12, 31</td>
<td>21, 22</td>
</tr>
<tr>
<td>Community history</td>
<td>2</td>
<td>9, 26</td>
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<tr>
<td><strong>Continuity</strong></td>
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<tr>
<td>Future in place (plans to stay)</td>
<td>12, 29</td>
<td>20, 25, 27, 28, 37</td>
</tr>
<tr>
<td>Place history</td>
<td>2, 3, 31</td>
<td>21, 23</td>
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<tr>
<td><strong>Identity</strong></td>
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<tr>
<td>Identity</td>
<td>3, 12, 16, 31, 36</td>
<td>34</td>
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<tr>
<td><strong>Social aspects</strong></td>
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<td></td>
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<tr>
<td>Social ties</td>
<td>2, 3, 12, 16, 24, 29, 31</td>
<td>1, 9, 10, 14, 20, 23, 27, 30, 33, 35, 37</td>
</tr>
<tr>
<td>Community interactions/ sense of community</td>
<td>2, 3, 12, 16, 24, 29, 31</td>
<td>5, 9, 10, 15, 27, 28, 33, 35, 37, 38</td>
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<td>Social support</td>
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<td>9, 10, 15, 26, 27, 33, 35, 38</td>
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<tr>
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<td>27, 35</td>
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<td>Personal history (LOR)</td>
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<td>Community history</td>
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<tr>
<td><strong>Control/efficacy</strong></td>
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<td>Responsibility</td>
<td>Responsibility/ protective</td>
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<td>Distinctiveness</td>
<td>Place as unique/distinct</td>
<td>12, 16</td>
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<td>Safety</td>
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<td>Aesthetics</td>
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<td>Sense of home</td>
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<td>Centeredness</td>
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<td>People as distinct</td>
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<td>Self-esteem</td>
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<td>Personal investment</td>
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<td>Continuity</td>
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<td>12, 16, 29, 36</td>
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<td>(Community) experiences</td>
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<td>Social mix</td>
<td>3, 24</td>
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<td>Stable neighbourhood</td>
<td>24, 31</td>
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<td>Interaction with tourists</td>
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<td>Aesthetics</td>
<td>Architecture</td>
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<tr>
<td>Functional aspects</td>
<td>Functional ties e.g.</td>
<td>3, 16, 24, 31, 36</td>
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<td>amenities, practical support</td>
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<td>Knowledge of place</td>
<td>29</td>
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<td>Routines</td>
<td>12, 31</td>
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<td>Recreation</td>
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*Quantitative studies which are underlined indicate variables from multi-dimensional attachment measures. Those which are not underlined are from one-dimensional attachment measures.
Table 3.7 lists factors which were found to be salient for the development of attachment in the qualitative studies included in the systematic review. These were then contrasted with the quantitative findings, discussed earlier.

An overall glance at Table 3.7 reveals that aspects of emotions regarding the place found in the qualitative studies are also found in both one-dimensional and multi-dimensional quantitative studies. Variables included in qualitative studies measuring other aspects of the people-place relationship, including; social aspects, efficacy, distinctiveness and aesthetics, are, for the most part, found in multi-dimensional measures and not one-dimensional measures.

When examining the eight studies that employed qualitative methods, there was considerable overlap regarding understandings of the nature of place attachment and what is important for its occurrence, including the following:

*Emotions regarding place*

Emotional attachment or bonding was included in all qualitative studies. Rogan et al. (2005) report that residents feel an emotional and spiritual connection to the place. Other variables included under the heading of ‘Emotions regarding place’ include residents’ feeling a sense of belonging, which Feldman (1996 (12), p.426) “embeddedness”. Also included are positive emotions about the place, such as feeling happy to live there (Twigger-Ross & Uzzell, 1996 (36)), feeling proud of the place (e.g., Amsden et al., 2011 (2); Anguelovski, 2013 (3)), and a sense of familiarity (Anguelovski (2013 (3)); Rogan et al., 2005; Rowles, 1983 (31)) reported both in qualitative and quantitative studies. Feldman (1996 (12)) refers to feeling comfortable in the place, termed “at-easeness”. Feeling safe and comfortable or at ease is also included in other qualitative studies (Anguelovski (2013 (3)); Livingston et al., 2010 (24)).

*Continuity*

Feldman (1996 (12), p.426) found residents reported plans to remain in the area, “bodily orientation” which can be likened to Hidalgo & Hernández’ (2001 (18)) argument that attached residents desire to remain close to the place.

The history of the place was found to be important for residential place attachment in two of Lewicka’s quantitative studies (2008, 2011a) and three qualitative studies (Amsden et al., 2011 (2); Anguelovski, 2013 (3); Rowles, 1983 (31)). For example, Rowles (1983 (31), p. 303) used the term “autobiographical insideness” which he reports refers to incorporating the
place not just in the present, but also from the past, as memories, so that the place becomes a part of the self. Anguelovski (2013 (3)) found heritage to be important for attachment. She found that residents report feeling attached to the traditions surrounding the place as well as architectural heritage. In addition celebrating historical figures from the place is incorporated into social life. Amsden et al. (2011 (2)) found, as well as place and personal history, community history was also important for residential place attachment.

Identity

A relationship between identity and attachment is found in five qualitative studies (e.g., Anguelovski, 2013 (3); Feldman, 1996 (12)). Higher attachment was found to be related to identification with the type of environment (Twigger-Ross and Uzzell, 1996 (36); Feldman, 1996 (12)). For example, residents who lived in the same type of environment as the one they identified with and considered themselves to be, such as, “a city person”, “a suburban type person”, or “a country girl” (Feldman, 1996 (12), p. 428) demonstrated greater attachment than residents who did not identify with the type of environment in which they lived. Feldman (1996 (12)) argues that attached individuals feel a “unity of identity” which describes one’s identity being tied to others in that place. Twigger-Ross & Uzzell (1996 (36)) argue that attachment is important for the development of identity, and Anguelovski (2013 (3)) claims that attachment to traditions and architectural heritage is linked to identity.

Social Aspects

As with the quantitative studies included in the systematic review, social ties are reported to be salient for attachment in the majority of the qualitative studies (e.g., Amsden et al., 2011 (2); Feldman, 1996 (12)). For example, Anguelovski (2013 (3)) found higher levels of attachment were associated with living in a close-knit residential environment where residents had shared histories and experiences, worked together towards goals, and participated in the community. For Rowles (1983 (31), p. 302) “social insideness” incorporates strong social ties. In addition, social insideness refers to a sense that one is part of the community. The importance of being involved in and being accepted by the community is found to be important elsewhere (Feldman, 1996 (12); Greif, 2009 (15); Rogan et al., 2005). Livingston et al. (2010 (24)) found that the sense that there was a social network to lend support with social challenges was important for residents.
Control/ efficacy

“Appropriation of place” which Feldman (1996 (12), p.426) describes a feeling of efficacy or control over the place. Rogan et al. (2005) report the importance of personal investment which describes being involved in shaping the environment through building or working on the land, for example.

Responsibility

Four qualitative studies report that residents feel a sense of responsibility for their neighbourhoods. For example, Anguelovski (2013 (3)) reports that residents are motivated to improve the environmental conditions of the place by their feelings of attachment for the place. This, in turn, leads to strengthened feelings of attachment to the neighbourhood (see also, for example, Feldman (1996 (12)) and Rogan et al. (2005)).

Distinctiveness

Similar to the results of the quantitative studies of Williams et al. (2010 (37)) and Woldoff (2002 (38)), the sense that one’s neighbourhood is unique from other neighbourhoods was reported by residents in the studies of Feldman (1996 (12)) and Gustafson (2001 (16)). For example, Feldman (1996 (12), p.426) reports residents may feel a sense of “uniqueness of place” refers to the belief that the place is better than others and cannot be replaced. This might be likened to distinctiveness which Twigger-Ross and Uzzell (1996 (36)) found to be associated with attachment. Specifically, that feeling part of a group which considered themselves distinct from people not living in the residential place was associated with higher attachment.

Safety

Only one qualitative study reports feelings of safety as important for attachment. Livingston et al. (2010 (24)) were exploring why neighbourhood attachment occurs in deprived neighbourhoods and found fear was associated with areas of low neighbourhood stability and low levels of attachment.

Aesthetics

The importance of the beauty of the local environment to attachment was reported in two qualitative studies which explored attachment in rural areas (Amsden et al., 2011 (2); Rogan et al., 2005).
3.3.2.3 Aspects appearing in qualitative studies only

Emotions regarding place

A sense that the neighbourhood is home, was reported in two qualitative studies (Amsden et al., 2011 (2); Feldman, 1996 (12)). Feldman (1996 (12), p.426) reports “centeredness” to refer to the place as being a core, central place, from which one departs from and returns to.

Livingston et al. (2010 (24)) found positive personal history to be tied to higher residential place attachment. Residents who reported, for example, that on moving to the neighbourhood they were met by friendly people, or had moved away from a neighbourhood which they had negative feelings about, were more highly attached to the area.

Aspects of neighbourhood life such as seeing an improvement in the area, physical qualities of the area, the status associated with living in the area was associated to increased self-esteem which was related to higher attachment according to Twigger-Ross and Uzzell (1996 (36)).

While both quantitative and qualitative studies found perception of the place as distinctive from others to be important for attachment, Twigger-Ross and Uzzell (1996 (36), p.211) found higher attachment to be related to distinctiveness of residents to people who live elsewhere, or “local identification”.

Continuity

The link between residential place attachment and continuity has been identified in four qualitative studies. (Feldman, 1996 (12); Gustafson, 2001 (16); Rogan et al., 2005; Twigger-Ross & Uzzell, 1996 (36)). The importance of past events and actions in the place (“place referent continuity”) and the similarity of the present neighbourhood to a valued place once lived in (“place-congruent continuity”) was identified by (Twigger-Ross & Uzzell, 1996 (36), p.214). Gustafson (2001 (16)) found increased attachment to be associated with relationships to people and the place over time. Tying continuity to length of residence and stability of neighbourhood. Feldman (1996 (12)) ties attachment to identity of the self and group over the past, present and future.

Social Aspects

Social mix was found to be important for attachment in two qualitative studies (Anguelovski, 2013; Livingston et al., 2010 (24)). Anguelovski (2013 (3)) found more highly attached
residents reported the mix of cultures and generations as important for their neighbourhood. Livingston et al. (2010 (24)) found that where residents reported differing values among residents, attachment tended to erode. With regards to ethnic mix, in neighbourhoods where there was a long standing high ethnic mix this was associated with high attachment. Ethnic mix was regarded as more negative in an area with low ethnic mix which had recently seen an increase in minority ethnic group residents.

Tied to this is the stability of the neighbourhood where a low population turnover was associated with higher attachment (Livingston et al., 2010 (24)). Rowles (1983 (31), p.302) refers to “social insideness” to describe “integration within the social fabric of the community” which develops over one’s lifetime.

Community experiences were included in four qualitative studies. For example, Anguelovski (2013 (3)) found negative common experiences involving disruption to result in a sense of responsibility and desire to improve the neighbourhood. Amsden et al. (2011 (2)) found community experience to be tied to place history.

Interaction with tourists was reported to be an important social aspect of attachment for residents in the study conducted by Amsden et al. (2011 (2)). Because their place of residence draws tourists from all over the world, some residents feel improves life in the area, making it more interesting. Though for other residents, it is seen as an inconvenience causing, for example, traffic problems.

*Functional aspects*

The functional aspects of the place were important for attachment according to some qualitative studies (e.g., Anguelovski, 2013 (3); Rowles, 1983 (31)). For example, Livingston et al. (2010 (24)) found school connections and proximity to other areas of attachment were tied to higher residential place attachment. The opportunity to take part in various recreational activities was reported as being important for attachment (Amsden et al., 2011 (2)). Anguelovski (2013 (3)) found that place attachment was associated with how well the place meets one’s needs with higher place attachment associated with more facilities. Rowles (1983 (31), p. 302) argues that “physical insideness”, or the awareness of every part of the place so that residents carry out their daily routine effortlessly, referred to by Feldman (1996 (12), p. 426) as “bodily orientation”, is important for residential place attachment.
3.4 Discussion

The majority of the studies included in the systematic review employed quantitative methods, specifically questionnaires. Choice of methodology reflects epistemological and theoretical differences. The majority of the studies included in the review were carried out by social scientists. Due to the differing types of information uncovered by quantitative and qualitative methodologies, the quantitative studies that examine which predictors are most strongly related to attachment are more relevant here. As mentioned, Lewicka (2011b) points out that quantitative studies dominate place attachment research. Nevertheless, eight qualitative studies were also included in the systematic review which contributed to the findings of the quantitative studies.

3.4.1 Urban and rural neighbourhoods

Overall, 74% of the studies included in the review explored attachment to urban neighbourhoods while only 15% examined attachment to rural residential areas (10% included urban and rural environments). There may be a number of reasons why so many more studies are carried out in urban neighbourhoods than rural ones. For instance, there are far more people who reside in urban areas and therefore it seems logical to carry out research in this area. According to the 2011 census, 81.5% (45.7 million) of the population in England and Wales lived in urban areas (The Office for National Statistics, 2013). It may also be due to practicality. It is easier to conduct studies in urban neighbourhoods in terms of logistics and finance.

Of the studies which are concerned with attachment to rural areas, rather than focusing on attachment to residential areas, the majority of studies are concerned with attachment to “natural” aspects of the environment (e.g., Kyle et al., 2004; Wynveen et al., 2012). This indicates a gap in the research which this thesis attempts to address in studies Three and Four. It raises the question, are there significant differences between attachment to rural residential areas and urban residential areas? Research so far would indicate there are. For example, Rogan et al. (2005) who examined place attachment in rural environments found more highly attached residents reported feeling a spiritual connection with the place as well as finding it restorative, concepts not considered in the urban environments. Furthermore, aesthetical beauty of the place is considered to be important for residential place attachment in two rural studies (Amsden et al., 2011 (2); Rogan et al., 2005 (29)). Differences in attachment in urban and rural neighbourhoods might have implications for applications of place attachment in the
different types of environment as well as being important for policy makers. Of the few studies which include urban and rural neighbourhoods (e.g., Feldman, 1996 (12); Gustafson, 2001 (16)) none specifically contrast the reasons for attachment in urban compared with rural residential environments.

Only six studies examining attachment to rural environments met the criteria to be included in the review, three using quantitative methods. Table 3.3 demonstrates that one urban study includes the aesthetical appearance of the neighbourhood, specifically, the presence of green areas, as part of attachment while four studies categorise it as a predictor of attachment.

Although it is difficult to compare urban and rural studies, as there were so few rural studies undertaken that met the inclusion criteria, the one rural study which included aesthetics as part of attachment does consider the landscape, and feelings of space and peacefulness. Studies 3 and 4 (Chapters Five and Six) explore further the differences between neighbourhood attachment in urban, semi-rural and rural residential environments.

3.4.2 Evaluation of quantitative studies

3.4.2.1 Definitions and conceptualisations of residential place attachment

The organisation of results was influenced by the framework of Hernández et al. (2014) grouped into studies which consider residential place attachment to be a one-dimensional construct and those which consider it to be multi-dimensional (outlined in section 2.4.1). Feelings of attachment, feeling part of the place, belonging and rootedness toward their neighbourhood are included in one-dimensional attachment measures. There appears to be some confusion surrounding these terms and their relationship to one another. Sometimes they are treated as being the same, for example, Wu (2012 (39)) measures attachment by the extent the participant “has a sense of attachment or belonging” (p.553), elsewhere (23) Lewicka (2011a (23), p.682) includes “I am rooted here” in the attachment measure. In some cases it was difficult to categorise the questionnaire items, for example, “This place is a part of me” (Lewicka, 2011a (23)), and similarly “Now this neighbourhood is part of me” (Aiello et al., 2010 (1); Bonaiuto et al., 1999 (6); Comstock et al., 2010 (11)) could be argued that these items may tap belonging (Giuliani & Feldman, 1993). This further demonstrates the uncertainty and overlap regarding labels and concepts within this field.

The terms reflect epistemological differences. Rootedness is discussed by phenomenological researcher Relph (1976, p.38) who explains that when we have roots somewhere, we feel we have a safe, secure base, somewhere we are psychologically attached to and have “a firm
grasp of one’s own position in the order of things”. Seamon (1979, p. 79) explains it as the place “providing a physical centre for departure and return”. Relph draws on the writing of Coles (1970, p.120) who states “It is utterly part of our nature to want roots, to need roots, to struggle for roots, for a sense of belonging, for some place that is recognised as mine”. The concept of rootedness, particularly in the idea that we have our place in our environment highlights the phenomenologist epistemology of everything being connected, of being part of our environment.

Tuan (1980), also a phenomenologist, explains that rootedness develops over a period of time living in the place; it is a “psychological state of being, a mood or a feeling” (cited in McAndrew, 1998, p.411) which can develop into incuriosity about the world. However, the concepts of rootedness and can be contrasted in this respect. Studies have demonstrated that place attachment can develop quickly though the reasons for short term residents’ attachment differs from that of long-term residents (Savage, 2010).

The phenomenological conception of the people-place relationship has been criticised as not taking into consideration change in the environment (Giuliani, 1991). In 2008 Relph questions the relevance of rootedness in today’s more mobile world. However, research suggests feelings of rootedness are still relevant, for example, Feldman (1996 (12)) argues that, while people are more mobile, they form bonds with types of places, rather than a specific place. Hummon (1992, p.263) measures rootedness quantitatively, and found two types of rootedness, ideological rootedness, where individuals feel “strong feelings of satisfaction, attachment and home … combined with self-conscious identification with the community”, they favourably compare their environment with others, and everyday rootedness, or taken for granted rootedness, which might be likened to Tuan’s arguments about incuriosity. Residents feel attached but don’t consciously identify with their neighbourhood.

3.4.2.2 Contested variables

Affective bonds

The results demonstrate that affective ties are central to the concept of residential place attachment, regardless of what term is used to label the relationship.

There is often an assumption that the affective tie must be positive. With regards to why individuals may not become attached to their residential places, this has received limited
consideration. Relph (1976) first discussed placelessness to refer to the loss of a sense of place in which the significance of a particular place is replaced by a uniform, anonymous place which is in many ways indistinct from other places of similar use. Hummon (1992) gives Steele’s (1981) definition of sense of place as “people’s subjective perceptions of their environments and their more or less conscious feelings about those environments” (cited in Hummon, 1992, p.262). He develops the idea of considering lack of attachment. Hummon argues that attachment, community satisfaction, identity and sense of home, or insideness (Relph, 1976), form community sentiment (1992, p.263). He maintains that sense of place is our understanding of community sentiment and there are five types of sense of place: ideological rootedness, everyday rootedness (outlined above), alienation, relativity, and placelessness. Lewicka’s (2011a (23)) study lends support to the argument that examining a lack of attachment is imperative for people-place research. However, while this criticism identifies a lack of attachment, it does not consider whether people feel an attachment to a place that is based on negative feelings. Brown and Perkins, (1992) found that disruption in place attachment, such as burglary or relocation have been considered, leads to a decrease in attachment. Manzo (2014) highlights the lack of research dedicated to exploring negative experiences and feelings in association with residential place attachment. This research, as well as that by Cooper Marcus (1995) and Anthony (1997), demonstrates that negative and ambivalent feelings about residential places are also significant for the development of place attachment. It is evident also from the studies included here that there is no consensus with regards to whether the bond must be positive or if negative bonds are associated with attachment.

The results in section 3.4 explore conceptualisations of attachment where it has been termed “neighbourhood attachment” and contrast these conceptualisations with other terms and conceptualisations to demonstrate that there is inconsistency as to the definition and conceptualisation of residential place attachment. These assumptions draw on various theories from different fields of research. The idea that attachment is comprised of affective, cognitive and behavioural aspects has been incorporated into a number of theoretical approaches; for example, Relph (1976; 1981) discusses this in his study Place and Placelessness, as does Canter (1991) in his ‘Place theory’, discussed in section 3.2.3, and it is incorporated in ‘Sense of Place’ theory (Hay, 1998; Jorgensen & Stedman, 2001), defined in Table 3.5. Relph argues that for individuals to feel they belong to and identify with a place, they should have “behavioural insideness”, a physical presence where activities are carried
out, “empathetic insideness”, where they are emotionally involved with the place, and “existential insideness”, which describes the cognitive aspect, where they demonstrate complete conscious commitment to the place (Relph, 1976, p.50).

If one-dimensional and multi-dimensional measures of residential place attachment are contrasted, the multi-dimensional measures are far more inclusive than one-dimensional measures, which are generally restricted to only exploring affective ties to the neighbourhood. Studies using multi-dimensional measures often draw on theories about community, such as sense of community (Skjæveland et al., 1996 (33)) and community attachment (Bolan, 1997 (5); Carsen et al., 2010; Woldoff, 2002 (38)) which Skjæveland et al. (1996 (33)) argue “tend to address qualitative aspects like feelings of belonging, mutual influence, and being important to each other” (p.415) which may explain the more inclusive measures. At least with regards to social aspects of the people-place relationship.

Identity

There is disagreement in the systematic review studies as to whether identity is part of an overarching concept, such as sense of place (e.g. Jorgensen & Stedman, 2001), or whether it is a separate construct, as authors who include place attachment as being limited to an affective relationship with place would argue (e.g. Bailey et al., 2012 (4); Mesch & Manor, 1998 (25)), or whether it is incorporated into the overarching concept of place attachment (e.g. Greif, 2009 (15); Hidalgo & Hernández, 2001 (18)).

When organising the variables into logical groups for presentation of Tables 3.2 and 3.3, a lack of clarity between identity and belonging became evident. Items such as “Neighbourhood is part of me” (e.g., Aiello et al., 2010 (1); Bonaiuto et al., 1999 (6)), “It is part of myself” Lewicka, 2008 (21); 2010 (22); 2011a (23)), or “I feel foreign here” (Lewicka, 2011a (23)) contain elements of belonging, feeling part of the place suggests one feels they belong there, but also of identity, feeling part of the place implies it is incorporated into who we are. This may contribute to confusion over the relationship between neighbourhood attachment and identity.

Ruiz et al., 2011 (32)) found no significant difference between length of residence and place attachment but did find a significant difference between length of residence and place identity suggesting that place attachment occurs before place identity. That length of residence was important for identity rather than attachment supports Twigger-Ross & Uzzell’s (1996 (36)) argument that attachment precedes identity. Support is provided by Livingston et al. (2010)
who found that when other variables are considered, length of residence is not as important for the occurrence of residential place attachment as social ties and a sense of safety are.

Confusion surrounding the relationship between attachment and identity is also evident in the literature. Proshansky et al. (1983, p. 57) describe place identity to refer to “the physical world socialisation of the self” and argue that individuals develop place identity by incorporating “cognitions about the physical environment (memories, thoughts, values, preferences, categorisations) into their self_DEFINITIONS” (Scannell & Gifford, 2010a, p.3). For place identity to occur, the place itself is important, as well as people and objects within the place in order to shape identity (Hay, 1998). Place identity contributes to self-identity (Proshansky et al., 1983) and self-identity cannot be entirely divorced from place attachment and identity (Twigger-Ross & Uzzell, 1996 (36)).

Twigger-Ross & Uzzell (1996 (36)) criticise the concept of place identity for not defining how and why places become pertinent. They employ Breakwell’s identity process theory (Breakwell, 1986, 1992, 1993) which argues that distinctiveness, continuity, self-esteem and self-efficacy determine the information to be accommodated, assimilated and evaluated in the social world. Breakwell (1986, 1992, 1993) argues that accommodation, assimilation and evaluation of information about the social world is necessary for the development of identity. Through employment of the identity process theory, Twigger-Ross & Uzzell (1996 (36)) determine that attachment is important for the development and preservation of identity. They found attached residents demonstrated higher distinctiveness, identifying themselves from others not living in the area, continuity, relating past experiences with the present (place-referent continuity) and living in their preferred type of environment (place-congruent continuity), had higher self-esteem, demonstrated through more positive feelings about themselves, and a higher level of self-efficacy, ease of day-to-day living in the area. Support that attachment leads to identity comes from a number of sources (e.g., Bailey et al, 2012 (4); Brown et al., 2003 (7), 2004 (8); Hernández et al., 2007 (17); Moore, 2000).

Satisfaction

The relationship between satisfaction and attachment is contested. It is included in some multi-dimensional measures as part of attachment (Bolan, 1997 (5); Greif, 2009 (15); Taylor, 1996 (35); Woldoff, 2002 (38)) but other researchers argue it is a predictor of attachment (Aiello et al, 2010 (1); Bonaiuto et al., 1999 (6)). Bonaiuto et al. (1999 (6)) point out that there are many aspects of satisfaction in the residential environment, their measure includes
eleven areas of satisfaction including, for example, architectural and town planning features, organisation and accessibility of roads, social relations, and so on. The significant difference being that where satisfaction is included in attachment measures, it is a general, overall sense of satisfaction with the neighbourhood or with living in the neighbourhood, for example, “How satisfied are you with your neighbourhood?” (Greif, 2009 (15)).

**Memories**

Individual and community experiences and memories were found to be important in some studies included in the systematic review (Table 3.7) (e.g., Amsden et al., 2011 (2); Rowles, 1983 (31)). Manzo (2005) also identified the importance of memories for place attachment. Memories may involve experiences which happened in the place which remind the resident of important people. She gives the example of shopping in a certain place reminding one participant of shopping in the same shop, in another neighbourhood with her mother when she was young. Memories of experiences and people in a place make the place significant and as a result attachment increases. Manzo concludes that memories of places and events contribute to a sense of continuity.

Researchers acknowledge that place attachment occurs for groups as well as individuals (Scannell & Gifford, 2010a). As well as the importance of memories for residential place attachment for individual resident, it is likely that collective memories play a role in attachment also. Collective memory refers to the memories of past events shared by a social group. Blokland (2001) argues that memories are shared because events are recalled by members of the group. Members contribute parts of the story to each other’s stories. The place is important because it has a specific meaning to members of the group, the neighbourhood in this instance. Halbwachs (1968) explains, “Each aspect, each detail, of this place has a meaning intelligent only to members of the group, for each portion of space corresponds to various and different aspects of the structure and life of their society, at least of what is most stable in it”. Relationships within the group may change over time due to events happening. For example, relocation.

Collective memory has argued to be important for social identification. Blokland (2001) argues this is achieved through defining the social positions that long-term residents’ used to have. Collective memory also makes the group distinctive from those not in the group. It provides a sense of familiarity through referencing local history and it can build a new community through talking about historical times and occurrences. Uzzell et al. (2002) found
that a number of residents of the neighbourhood referred to the historical origins of one
neighbourhood as well as to a specific historical event important which had a significant
impact on the neighbourhood, and concluded that collective memory to be an important
contributor for place identification. Whereas social identification refers to a sense of one’s
identity based on group membership (Tajfel & Turner, 1979), place identification is defined
as “the attributes of the place that give it a distinctive identity in the minds of residents”
(Schneider, 1986, cited in Uzzell et al., 2002, p. 29).

The importance of collective memory for residential place attachment has not been
considered although Lewicka (2008) explored the relationship between collective memory,
place identity and place attachment in residents of two cities which saw territorial changes
after the Second World War. Lewicka (2008) found a significant positive relationship
between place attachment and collective city memory.

Other contested variables

It is evident that disagreement as to what variables are salient for residential place attachment
draws on epistemological and theoretical background. For example, inclusion of pride,
efficacy and distinctiveness into attachment measures supports the argument put forward by
Twigger-Ross & Uzzell (1996 (36)) that more highly attached residents demonstrate
continuity, pride and efficacy which are included in Breakwell’s (1986, 1992, 1993) Identity
Process model which they examined in relation to residential place attachment.

The importance of place for practical reasons, which was included in both one-dimensional
attachment measures (Lewicka, 2008 (21), 2010 (22); Stedman, 2006 (34)) and multi-
dimensional measures (Burholt, 2012 (9)) can be tied to the concept of Place Dependence.
Place dependence is defined as “an occupants perceived strength of association between him
or herself and specific places” (Stokols & Shumaker, 1981, p.457). They argue that “strength
of association” is determined firstly, by the resident’s opinion about the quality of the current
residential place, that is, how well the place meets the needs and goals of the resident in
comparison with previous residential places in which they resided. And secondly, the
resident’s opinion about how the current residential place compares with other possible
alternative residential places (Shumaker & Taylor, 1983). According to Shumaker & Taylor
(1983), attachment to place depends on the available amenities, social and physical, the needs
of the individual and their personality and finally, the individuals opinions about how well
the current residential place meets the needs and goals of the resident in comparison with
previous residential places and how the current residential place compares with alternative possible residential places, in other words, the factors which form place dependence. Place dependence is commonly found in multi-dimensional people-place measures (Mihaylov & Perkins, 2014) such as the Sense of place measure put forward by Jorgensen & Stedmans (2001), and the Place attachment measure of Kyle et al. (2004). Because of this, it is rather surprising that practical aspects were not more common in the multi-dimensional measures included in the review. However, this may simply be due to inclusion criteria of the review.

### 3.4.2.3 Conceptualisations of residential place attachment and measurement

Even when there is agreement with regards to how residential place attachment should be conceptualised, there may be disagreement as to what variables should be included in measures. For example, Bolan (1997 (5)), Greif (2009 (15)), and Woldoff (2002 (38)) consider attachment a multi-dimensional superordinate concept, “neighbourhood attachment”. The dimensions are grouped as attitudinal attachment, including sentiment and satisfaction (labelled evaluation by Woldoff (2002 (38)), and behavioural attachment, including neighbouring and participation. However, in Woldoff’s (2002 (38)) study behavioural attachment is grouped further into behavioural attachment through neighbouring, including routine neighbouring activities and social interaction, and behavioural attachment through problem solving including formal and informal problem solving. Table 3.3 shows that different aspects of attachment are being measured. Only five items are included in Bolan’s (1997 (5)) study, ten items in Greif’s (2009 (15)), and 19 items in Woldoff’s (2002 (38)) measure. On closer inspection, examining the sentiment aspect of attitudinal attachment, (5) Bolan (1997 (5)) uses one item for its measurement, “If you had to move, how much would you miss this area?” Woldoff (2002 (38)) includes three items, inquiring whether the neighbourhood is regarded as home or as merely as place to live, the strength of ties to neighbourhood, and whether the neighbourhood would be missed if the participant had to move. Greif (2009 (15)) includes four items to measure sentiment, inquiring whether it is a close-knit neighbourhood, whether people help each other, whether they can be trusted, and feelings towards neighbours. This example highlights that while a shared theoretical background suggests what is to be included in measures, and it would be assumed the same aspects of attachment being measured, different interpretations of attachment results in different aspects being measured, thereby reducing the reliability of the construct.
3.4.2.4 Cultural differences

Cultural differences are rarely examined (cf. Laczko, 2005; Dallago et al., 2009). No studies examining cultural differences have been included in the present review as the few which have been carried out do not meet the inclusion criteria. This is all the more worrying since there are intrinsic cultural biases in the studies, i.e., the majority of studies included in the review were carried out in Europe or the USA (83%). This appears to be due to two limitations. Firstly, a limitation of the review itself, whereby only studies published in English have been included may have resulted in relevant studies being excluded. In addition, the majority of studies being published had been carried out in Europe and the USA.

3.4.2.5 Bowlby’s (1969, 1982) interpersonal attachment theory and residential place attachment

As outlined in the introduction, some researchers argue that place attachment draws on Bowlby’s (1969, 1982) interpersonal attachment theory to explain place attachment. For example, Giuliani (2003) and Scannell and Gifford (2014) point to research which indicates that people feel a desire to remain close to the place of attachment (E.g. Chi & Qu, 2008) which indicates “proximity maintenance” (Bowlby, 1969, p.63). Furthermore, that people might suffer feelings of loss or grief when forced to move away from the neighbourhood (Fried, 1963) indicating “separation distress” (Scannell & Gifford, 2014, p.25). Some results from the systematic review support the argument that residential place attachment draws on Bowlby’s theory. For example, items in attachment measures which reflect proximity maintenance include negative feelings about temporarily being away, for example, “I miss it when I am not here” (Lewicka, 2008 (21), 2010 (22)) which supports the argument that the wish to remain close to the object of attachment is inherent to place attachment (Hidalgo and Hernández (2001 (18)). Furthermore, Brown and Perkins (1992) and Proshansky et al. (1983) insist that feelings of attachment may only become apparent to the resident when there is a threat of being distanced from the place. Items included in measures which reflect separation distress include items inquiring as to how residents would feel if they had to leave their neighbourhood (e.g., Bolan, 1997 (5); Hernández et al., 2007 (17); Woldoff, 2002 (38)). Finally, place as a safe haven has been demonstrated by studies which find higher attachment is associated with higher perceptions of safety. For example, “I feel secure here” (Lewicka, 2008 (21), 2010 (22)).
However, while Bowlby’s (1963, 1982) attachment theory may have been inspirational in the place attachment research, there are salient differences between its application to interpersonal relationships and its application to place. For example, in Bowlby’s theory the relationship is one of dependency. The infant is dependent on the primary caregiver for survival. According to Bowlby (1969) babies have an innate drive to become attached. While Relph (1976) argues the desire for a sense of rootedness is natural and it can be argued that feeling attached to where one lives enhances life in that neighbourhood as it is tied to feelings of well-being (Bogdan et al., 2012), survival does not depend on it.

Furthermore, Bowlby argues that babies form a monotropic relationship with the primary caregiver, that is, although they may be attached to other people the primary caregiver is the main attachment figure (Ainsworth, 1979). Although infants do become attached to other people, there is a clear hierarchy. With regards to place, evidence suggests that many people have multiple place attachments. Feldman (1996 (12)) argues people become attached to a type of place rather than specific places. Gustafson (2001 (16), p.674) found that for more mobile people, multiple places are important and there significance is for “one’s biography”, for “accumulated experience” rather than a place to root oneself and to use as a safe haven, as the arguments to suggest a link between Bowlby’s interpersonal attachment theory and place attachment maintain.

Moreover, according to Bowlby’s interpersonal attachment theory, the relationship between the child and primary caregiver is reciprocal. Both develop a sense of attachment to the other. Place is passive. The relationship is one-directional. Although this argument depends upon that assumption that people become attached to the physical environment. Livingston et al. (2010 (24)) found only three of 39 residents reported feeling attached to the physical space of their neighbourhood. If place is considered a social construction, one might argue that people become attached to the social aspects of place (e.g., Acuña-Rivera et al. (2014); Kyle & Chick, 2007).

### 3.4.2.6 Attachment as a physical or social construct?

In the literature, social aspects of urban places appear to be central to attachment. Some definitions of neighbourhood incorporate a social aspect. For example Glass (1948) defines neighbourhood as “a territorial group, the members of which meet on common ground within their own area for primary social activities and for organised and spontaneous social contacts” (cited in Lee, 1976, p.128). Indeed, Perry’s (1929) belief that creating a sense of
community was a central idea in the construction of neighbourhoods. While attachment to natural areas appear to be focused around the physical aspects of the place and the opportunity for restoration (Korpela et al., 2009), social aspects of living in neighbourhoods have been demonstrated to be important in residential place attachment research. Saarinen (1976) indicates research which demonstrates the positioning of houses determines to a certain extent social groupings of residents (Whyte, 1956).

Lee (1954) explored how neighbourhood should be defined, as a physical territory or a social group. He found that residents did not distinguish between the two, and concluded that people construct a socio-spatial schemata to represent the neighbourhood, incorporating both physical and social aspects of the place. Golledge and Zannaras (1973) explored whether residents perceive neighbourhood as a union of physical and social space. Residents drew maps of each and Golledge and Zannaras (1973) concluded that both exist and can be identified, but that they are very closely linked.

On the other hand, physical aspects of place are also found to be pertinent for attachment. Place dependence, outlined above (section 3.2.5), holds that the physical features of the place as central to attachment (Scannell & Gifford, 2010a) as it refers to how well a place meets one’s needs, that is, whether amenities and resources are sufficient for goal achievement (Stokols & Shumaker, 1981) and compares the current place to possible alternatives, and thus is based on behaviour in the place rather than affect (Jorgensen & Stedman, 2001).

Mesch & Manor (1998) found both locally based social relationships and satisfaction with the physical environment to contribute towards place attachment. Unfortunately the authors were unable to determine which concept was more important for the development of attachment. Other research exploring relocation demonstrates the importance of social ties over physical place for residential place attachment. For example, Young and Wilmott (1957) report that the majority of residents wanted to remain in London’s East End rather than move to a new housing estate with better physical conditions. Many who moved felt lonely and in an unfriendly environment. Young and Wilmott (1957, p.156) argue that “the sense of belonging which comes from knowing and being known by so many of their fellow residents is something which most Bethnal Greeners prize, this alone goes some way to explain their attachment”.

Acuña-Rivera et al. (2014) explored fear of crime in neighbourhoods. Assessment of risk was found to be a mediator between perceived disorder and sense of safety. They put forward the
hypothesis that when assessing risk, people not only consider physical incivilities, which is what the majority of previous research has focused on (Peinter, 1996; Kuo & Sullivan, 2001; Pitner & Astor, 2008), but that social and contextual factors are also important. Therefore, the perception of orderliness of a place depends not only on physical attributes but also on actual and inferred attributes of the people in the place. This then determines the level of safety which people feel in the place. They found that even when a place was perceived as physically disordered and deprived it was concluded to be rather safe and with low risk if it was perceived as socially ordered. Whereas a place perceived as physically and socially disordered was considered unsafe and risky and thus Acuña-Rivera et al. (2014, p.73) conclude that inferences made about the people and their behaviour in an environment are more important for evaluations of safety than physical aspects of the place.

Some attachment measures included in the systematic review have identified both social and physical components of place to be pertinent for the development of attachment. Examples, can be found in Table 3.4. For instance, through factor analysis, Burholt (2012) identified three dimensions of place attachment, a social dimension, an aesthetic dimension, and appropriateness of resources for the environment. Hidalgo and Hernández (2001) identified two factors, social and physical. Hidalgo and Hernández (2001) were concerned with measuring the strength of the two components and found social attachment to the neighbourhood to be significantly higher than physical attachment to the neighbourhood.

Although the research appears to indicate that social attachment is more salient for the occurrence of attachment, physical attachment has been shown to be extremely important also. Rivlin (1982) explored the role of group membership in place meanings and concluded that as both physical components of place and social networks as well as meanings and memories gathered over time are important when people relocate.

Aesthetical quality of place was found to contribute to residential place attachment in two rural studies included in the systematic review (Table 3.7). It may be that physical aspects of the relationship, with regard to aesthetical quality, are more important in rural than urban residential environments.

3.4.2.7 Attachments items and study research questions

Differences in items on attachment measures are also due to the focus of the research. For example, Burholt (2012) created a place attachment measure intended to identify place attachment in older adults living in a rural environment. Prior to this she carried out
interviews in order to identify important aspects of attachment. Burholt (2012) includes items concerned with practical aspects of with living in the neighbourhood, such as ease of getting around, and proximity of amenities, which may be more important for older people. In addition, she included items regarding aesthetic aspects, “Being surrounded by beautiful physical landscape” and “Having a feeling of space around you” (p.2911) which arguably is more relevant for rural then urban residents. Similarly, Williams et al. (2010) exploring differences in sense of place in two neighbourhoods which were going through socio-economic changes, one increasing and the other decreasing, included items regarding whether safety, social and environmental problems had an impact in health, which again is quite specific to the research aims. This demonstrates the importance of carrying out a systematic review, firstly on specific types of place, and secondly to identify what has been put forward as being important for attachment, which has previously not been considered.

3.4.2.8 Variables being measured as predictors of residential place attachment

The variables being measured in association with attachment reflect the study research questions. For instance, variance aspects of mobility were included in Bolan’s (1997) study which was concerned with mobility and neighbourhood attachment. Interest in the history of the place was included in Lewicka’s (2008) study investigating predictors of place attachment and place memory. However, what is important here, and is one of the aims of the thesis, is how important various predictors are when considered with other predictors. We live in an increasingly more mobile world with easier and faster travel, the necessity of travel for employment, and so on. There is a body of research which is concerned with how neighbourhood attachment is affected by more mobile societies, three such studies are included in the systematic review (Bolan, 1997; Feldman, 1996; Gustafson, 2001). Gustafson (2006) argues that attachment and mobility are often assumed to be opposing factors whereby increased mobility is associated with decreased attachment. There is an argument that less stable neighbourhoods, where there is an increased level of mobility, are associated with lower levels of collective efficacy, and increased crime levels (Coulton et al. 2012). Furthermore, Livingston et al. (2010) neighbourhoods with lower levels of mobility and crime also had higher attachment levels and a greater sense of community and thus mobility would appear to affect attachment. However, perception of neighbourhood life may differ for residents in a mobile neighbourhood who remain there while other residents arrive and leave, to those who move to the neighbourhood. Savage (2010) distinguished
between different types of belonging to place and argues that those who demonstrate “nostalgia” perceive a decline in social cohesion and the community in the neighbourhood. Savage argues of a different type of belonging amongst those who remain in a neighbourhood “dwelling”, which contrasts with nostalgia in that residents have lived there for a long time, have many social ties and are attached quite passively without any strong opinions about the place. In addition, Savage identifies a sense of belonging among newcomers which he terms, “elective belonging”. Rather than social cohesiveness being important, other aspects bind them to the place. Specifically, the identity of the place and aesthetics. They have chosen to live there and therefore affirmed their own identity with the identity of the place.

Feldman (1996 (12)) and Gustafson (2001 (16)) also concentrate on attachment of those who are mobile in comparison with those who are less mobile. Both found that increased mobility is not associated with decreased attachment. Feldman (1996 (12)) argues what mobile individuals develop “settlement identity” where they become attached to a type of environment rather than a specific place. Gustafson (2014) points out that more mobile people may appear to be less attached in qualitative measures because the meaning of place is different for mobile people. He has previously demonstrated (Gustafson, 2008) that more mobile individuals have attachments to specific places and associate this with personal growth and receptiveness whereas less mobile attachments are linked to length of residence in the place, social ties and knowledge of the place. In addition, Gustafson (2014, p.38) points out that mobility includes not only physical movement but also “technological mediated forms” of mobility, for example, emails and internet, television, telephones. Research has indicated that these technologies enable people to be connected to places they are attached to while away (Hiller & Franz, 2004).

‘Natural’ aspects of the neighbourhood were not included in many studies although the presence of green space, such as parks, was found to be significantly positively associated with attachment in four of the five studies in which it was included (e.g., Aiello et al., 2010 (1); Brown et al., 2004 (8)) suggesting the presence of natural aspects of the environment are important to residents even in urban environments. A body of research is concerned with the relationship between natural areas and restoration (e.g., Hartig et al., 2003), such as experiences of nature (Kaplan & Kaplan, 1989; Ratcliffe et al., 2013). A link has been found between restoration, self-regulation and place attachment Korpela et al., 2001). Korpela and colleagues argue that mental, physical social and environmental strategies are used for self
and emotional regulation, and natural places, because of they provide opportunities for restoration, tend to be people’s favourite places.

3.4.2.9 What are different contexts for when socio-demographics are decisive or not?

The relationship between length of residence and attachment taking into consideration other variables has been discussed elsewhere (section 3.5.2.2). However, it is useful to demonstrate how significant results may change when relationships are moderated or mediated by other factors. Hernández et al. (2007 (17)) found that length of residence, while initially demonstrating a significant positive relationship with attachment, became non-significant when controlled for, indicating that length of residence was not related to differences between place attachment and place identity over time. The authors indicate that this highlights the need to explore how variables may be regulating the relationship between length of residence and attachment. Because of the discrepancies regarding the relationship between various socio-demographic variables and attachment, the context of when a relationship has been demonstrated should be explored in order to forward the knowledge on the regulation of these relationships.

This argument may also be applied to socio-demographic variables, about which there is some debate. Length of residence is the most commonly included variable to measure in association with residential place attachment (Table 3.5). Age, gender and education are the most commonly included socio-demographic variables included in the studies included in the systematic review. The results are mixed. Ten of the 23 studies which included age as a predictor found it was significantly related to attachment (44%). Occasionally it was excluded from analysis as it was found to be highly correlated with length of residence (e.g., Comstock et al., 2010 (11)). In most cases age and attachment are positively correlated, as age increases attachment also increases, although Gilleard et al. (2007 (13)) found attachment decreased levels of attachment in residents over seventy years old and Bolan (1997 (5)) found only the 30-39 age group was positively correlated with attachment. Fifteen of the twenty studies which included gender found women to be significantly more highly attached than men (75%), and seven of the sixteen studies which included education found a significant relationship with attachment (43.8%), although three of the seven found it to be a negative relationship, more highly educated residents were less attached. From these results it cannot be determined whether age, gender or education play a role in the occurrence of place attachment.
Mixed results may reflect differences in measurement instruments. If differences between the measurements are considered, in the case of studies which include gender as a potential predictor, 50% of the studies using one-dimensional attachment measures found it significant and 50% using multi-dimensional measures found it significant. However, in the case of studies including age as a predictor, 54% using one-dimensional measures found it to be significant while 80% using multi-dimensional measures found a significant relationship. Also in the case of education, more studies using multi-dimensional measures found it to have a significant relationship with attachment (71% using multi-dimensional, 22% using one-dimensional). It may be that age and education have no real influence on affective ties with a place, but when attachment measures are more inclusive a significant relationship emerges due to these variables influencing other aspects of attachment. In order for us to be able to conclusively state whether they influence attachment these variables were included in Study 2. The significance of these variables were measured with a systematic neighbourhood attachment measure which was created from the results of the present systematic review. The findings of this are discussed in Chapter Three.

3.4.3 Contrasting qualitative and quantitative studies

Phenomenology is central to the qualitative studies. Amsden et al. (2011 (2)) argue that the place and the community are intertwined, drawing the phenomenological argument that people cannot be examined independently of place.

Arguably, because of the epistemology that people and places cannot be separated, all of the qualitative studies assume that attachment is more than just an emotional tie to a place which contrasts with a number of quantitative studies employing one-dimensional measures (e.g., Aiello et al., 2010 (1); Wu, 2012 (39)) For example, Livingston et al. (2010 (24)) claim attachment is functional and emotional involving practical or behavioural, and psychological aspects. Anguelovski (2013 (3)) argues that both physical and social aspects of the place are important for attachment to occur. Rowles (1983 (31)) identified three dimensions of place attachment, physical, social and autobiographical, a cognitive element.
3.4.3.1 What do the qualitative studies included in the review tell us which the quantitative studies do not?

In the absence of longitudinal studies, for which there are few in residential place attachment research, one of the advantages of qualitative studies over quantitative studies is that they can measure change. Feldman (1996 (12)) uncovered that attachments, while remaining quite constant, are changeable psychological structures, influenced by conscious and unconscious cognitive processes and experiences. Feldman (1996 (12)) found that although people are mobile, rather than disrupting attachment, people form attachments with types of places.

Gustafson (2001 (16)) was also concerned with mobility, specifically the relationship between mobility and attachment. His study demonstrates the complementary nature of qualitative and quantitative methods. Gustafson (2001 (16)) found that some interviewees were attached with a specific place. Here Gustafson (2001 (16)) found interviewees demonstrated that a sense of community, knowing people in the community for a long time and having a good relationship with them, having local traditions, having a sense of safety was important to them, findings consistent with various quantitative studies (e.g., Aiello et al., 2010 (1); (14) Górsy & Toruńczyk-Ruiz, 2013 (14); Kimpton et al., 2014 (20); Lewicka, 2008 (21), 2010 (22), 2011a (23)). However, Gustafson (2001 (16)) also uncovered that for more mobile individuals place was important more for experience rather than continuity. Additionally, for most interviewees, specific places were still very important and the relationship between attachment and mobility was seen as either contradictory, complementary or provided a sense of equilibrium. While mobility is included in the quantitative studies carried out by Bolan (1997 (5)) and (23) Lewicka (2011a (23)) the depth of the different types of relationships which were uncovered by Gustafson (2001 (16)) was missed in the quantitative studies. They merely found that mobility had an effect on attachment.

Livingston et al. (2010 (24)) found length of residence to be of less importance than the majority of the quantitative studies suggest. Referring back to Table 3.5, length of residence was reported as being the most commonly included variable in the attachment studies included in the review, and most studies find it to be influential in the development of attachment where the longer one has resided in a place, the higher the level of attachment is generally found to be. This finding is supported elsewhere (Lewicka, 2011a (23)). Few quantitative studies contradict this argument except Ruiz et al. (2007 (32)) who found length
of residence to be associated with identity rather than attachment and concluded attachment leads to the development of identity, an argument also put forward in the qualitative studies of Anguelovski (2013 (3)) and Twigger-Ross and Uzzell (1996 (36)). While Livingston et al. (2010 (24)) found that length of residence does influence attachment, they found social ties and a sense of safety to be most important.

Livingston et al. (2010 (24)) also found highly attached residents were willing to move away from the area. Again a contradiction of the findings of the majority of quantitative studies which have examined continuity (e.g. Mesch & Manor, 1998 (25); Pendola & Gen, 2008 (27)). However, this may be due in part to the type of neighbourhoods being studied. Livingston et al. (2010 (24)) were specifically concerned with attachment in deprived areas and residents stated that they would be willing to move to a more affluent area.

3.5 Conclusion

The first aim of the thesis is to contrast definitions and conceptualisations of residential place attachment, on the basis of the systematic literature review findings. It is concluded that there is no agreement as to the term, definition or conceptualisation of what neighbourhood attachment is. Different terms have been used to label the relationship between residents and their neighbourhoods, such as neighbourhood attachment, place attachment, local attachment, and sense of place, among others. While it is agreed that affective ties are central to the concept of attachment (e.g., Bailey et al., 2012 (4); Comstock et al., 2010 (11); Hernández et al., 2007 (17)), beyond this there is no agreement as to how residential place attachment should be defined and conceptualised. However, epistemological and theoretical backgrounds were discovered to be influential in conceptualisations of residential place attachment. More inclusive conceptualisations draw on phenomenology and community theories, for example. In addition, qualitative studies are inclusive, again drawing on phenomenology rather than positivism.

The second aim being addressed was to discover the variables being put forward as salient for the occurrence and development of residential place attachment. A number of variables were included in the various studies. Emotional feelings about the place included variables such as; feeling part of the place, feeling proud of living there, feeling being in the place increased one’s self-esteem, a sense of familiarity, memories associated with the place, the sense that people who lived there were distinct from non-residents, and plans to stay. As well as emotions regarding the neighbourhood, social ties were argued by some to be important for
residential place attachment. For example, social ties, having friends in the neighbourhood, having a good relationship with neighbours, a sense of social support, and community involvement. Functional aspects of the neighbourhood argued to be important for attachment in some studies include the importance of amenities and practical support, a good knowledge of the place, having a routine, and recreational opportunities, for example. A sense that the neighbourhood is a safe place to live, satisfaction with the neighbourhood, economic ties to the neighbourhood, identity, and a sense of continuity were included in various studies.

This study has laid a foundation for addressing the remaining aims of the thesis. The next study involved incorporating the variables included in the systematic review studies into a measure in order to identify which ones, when examined together, are salient for the occurrence and development of residential place attachment. Following this a neighbourhood attachment model was constructed and a systematic neighbourhood attachment measure created which was applied to identify which socio-demographic variables are in fact important for the occurrence and development of neighbourhood attachment.
Chapter Four

Study 2:

Creating a residential place attachment measure

4.1 Introduction

Using the findings of the systematic review, the intention in the present study is to create a systematic residential place attachment measure which incorporates the essential properties that need to be present to demonstrate a high level of residential place attachment.

In the last chapter it was concluded that there is contestation surrounding the definition and conceptualisation of residential place attachment and that a systematic residential place attachment measure was needed in order to address inconsistencies in research findings. In addition, a number of variables were identified in the studies included in the systematic review as being instrumental for the occurrence and development of residential place attachment.

Study 2 aims to address the third thesis aim, that is, to construct a systematic measure of residential place attachment using the variables which have been identified in the studies.

The chapter is organised in the following manner. The questionnaire incorporates 32 variables and why these are included is firstly outlined. Following this, there is an explanation of why the socio-demographic variables; age, gender, as well as other variables; length of residence, group membership, life satisfaction and aspects of residential satisfaction, and positive and negative affective were explored in relation to residential place attachment. Next, the process of collecting the data, including participants and design, is presented. The results are then reported and discussed in relation to the study aim. From the original questionnaire, the essential properties of residential attachment from those put forward in previous studies are incorporated into a residential place attachment model which is found to have five factors. The socio-demographic variables; age, gender, and other variables; length of residence, group membership, life satisfaction and aspects of residential satisfaction, and positive and negative affective were explored in relation to each of the residential place attachment factors in order to examine the importance and lend an explanation as to why study findings are inconsistent. The original questionnaire is refined to incorporate items tapping the variables found to be most important for the occurrence and development of residential place attachment. This questionnaire is later used in Study Three.
to explore differences in residential place attachment in different types of neighbourhood and explore the relationship between residential place attachment and community and personal environmental actions.

4.2 Items included in the questionnaire

4.2.1 Possible residential place attachment variables

From the results of the systematic review, residential place attachment appears to have six domains. These areas are emotions tied to the neighbourhood, continuity, identity, social aspects, involvement and efficacy, and practical aspects. The variables are drawn from those included in Tables 3.2, 3.3, and 3.7. The variables were grouped into the six domains and from these, the variables which had been included in more than one study were generally included. For example, referring to Table 3.2, items tapping pride regarding living in the residential area were included, while pride in the community, being that it was only incorporated into one study, was not. Identity, while only included in one study in Table 3.2 was included in five qualitative studies and was therefore included.

Items which were mentioned in very few studies were excluded, for example, personal investment in the area, interaction with tourists and architecture were each only mentioned in one qualitative study. With regard to aesthetical beauty, although mentioned in three studies, beauty was mentioned in reference to natural areas which were located near the residential areas and was therefore not included.

A large number of variables are included in the three tables as they were intended to be as detailed as possible. However, it was anticipated if all of these had been included in the questionnaire, very few questionnaires would have been completed as they would have been so long. Therefore, very similar variables were condensed. For example, a sense of belonging was included in the questionnaire. However, as this sentiment is similar to other emotions, such as a sense of the place as home, or a sense of feeling centered there, items were limited to a sense of belonging in the questionnaire in order to keep the number of items included in the questionnaire to a minimum. It was also anticipated that respondents would find the questions repetitive if items tapping such similar sentiments were included a number of times.
The final list of variables included in the questionnaire includes:

**Emotions regarding place**

Belonging (a sense of belonging in the residential area)

Pride (a sense of pride which arises from living in the residential area)

Desire not to move away (negative feelings about moving away)

Memories (memories of events occurring in the residential area)

Meaning (the residential area having special meaning to the resident)

Desire to maintain closeness (negative feelings when temporarily being away or a desire to return to the area)

Distinctiveness (a sense of feeling distinctive because of the area in which one lives)

Self-esteem (feeling that living in the area increases one’s self-esteem)

Feeling attached - Whether residents feel attached to their residential area was included into ten quantitative and eight qualitative studies. Three items were included in the questionnaire but these were then used to assess the reliability of the assessment measure rather than incorporated into the model. This decision was made as feeling attached is considered here as the result of the various other variables leading to attachment. That is, if an individual feels a strong sense of pride, does not wish to move away, feels safe in the area, and so on, they will ultimately feel attached to the area.

**Continuity**

Intention to stay (plans to remain in the residential area)

Continuity (a sense of continuity provided through living in the area)

History of place (a knowledge of the history of the area)

History of family (having parents or grandparents who have lived in the residential area)

**Identity**

Identity and preferred type of environment (identity includes the belief that living in the neighbourhood is congruent with who the resident is)
**Social Aspects**

Social ties – family (having family who currently live in the neighbourhood)

Social ties – friends (having friends in the neighbourhood)

Contact with neighbours (frequency of speaking with neighbours one knows)

Recognition (refers to knowing neighbours by sight)

Social support (a sense that neighbours would provide support if needed)

Sense of community (refers to how close-knit the resident considers the residential area to be)

Stability of neighbourhood (refers to having a long relationship with neighbours due to residents and neighbours living long term in the neighbourhood)

Values (refers to having shared values with a considerable number of neighbours)

**Involvement/Efficacy**

Improvements (personal involvement with improving aspects of the residential area)

Interest in neighbourhood (taking an interest in aspects of neighbourhood life and changes in the neighbourhood)

Involvement in neighbourhood events (participation in social events taking place in the residential area)

Efficacy (a sense that one has an element of control over decisions regarding what happens in the neighbourhood)

**Practical Aspects**

Practical aspects includes the convenience/ease of getting around, a sense of familiarity when in the neighbourhood, economic ties to the neighbourhood, satisfaction with aspects of the neighbourhood, feelings of safety.

Convenience/ease of getting around (a sense that it is easy to get to various places within the residential area)

Familiarity (a sense of the residential area feeling a familiar place)

Financial ties (being financially tied to the residential area)
Work (tied to the residential area because resident works in the area)

Comparison of place with others (the sense that one’s own residential area is superior to other areas)

Feelings of safety (the sense that the residential area is a safe place to live)

Perceived crime (A perception of low level of crime in the residential area)

Two items were created for each variable and some items were negatively framed in order to increase the reliability of the questionnaire (Sapsford, 2007). A total of 32 were included in the questionnaire. The scale comprises 64 items. To be as consistent and clear as possible, all items were constructed by the researcher. All items were constructed to be as representative of the variable as possible. The list of variables with corresponding questionnaire items can be found in Appendix 1.

Three items directly asking participants about their attachment to the neighbourhood were also included in the questionnaire. These were not incorporated into the model in order to test its reliability.

Data were collected on a seven-point Likert scale from Completely disagree to Completely agree, rather than use a five or ten point scale as Sapsford (2007, p.227) argues that participants are able to answer more precisely on a larger scale and thus it is easier to perceive differences between groups. While, on the other hand, participants may find large scale difficult to interpret.

4.2.2 Variables included in the questionnaire in order to identify their relationship with residential place attachment

There are numerous variables which might have been included to identify whether they predict residential place attachment. Many were identified through the systematic review and are presented in Table 3.5. Considering the length of the questionnaire, these had to be limited in the current study and were limited to the following.

4.2.2.1 Affective appraisals

Affective ties to the place are commonly argued to be central to place attachment (e.g., Hernández et al., 2007; Lewicka, 2008; Low & Altman, 1992; Scannell & Gifford, 2010a). However, that these affective ties are limited to positive emotions is often argued (e.g., Bailey et al., 2012; Brown et al., 2003; Mesch & Manor, 1998). In response to the arguments of
Russell and Lanius (1984) that attachment measures tend to focus on affective appraisals in a narrow way, it was decided here to measure participants’ positive and negative affective appraisals with their level of neighbourhood attachment to determine whether positive appraisals are associated with higher levels of attachment and on the other hand, whether negative appraisals are associated with lower levels of attachment.

Six affective appraisals of the neighbourhood, adopted from Gatersleben and Uzzell (2007) based on the two-dimensional model of affect put forward by Russell and Lanius (1984) to assess affective appraisal of the neighbourhood. Again the data were collected on a seven point Likert scale.

**4.2.2.2 Items concerned with satisfaction with various aspects of the neighbourhood**

Satisfaction is generally considered to be important for the development of residential place attachment (e.g., Bonaiuto et al., 1999; Hummon, 1992). The most extensive measure of neighbourhood satisfaction is that of Bonaiuto et al. (1999) who constructed a 126 item Perceived Residential Environment Quality (PREQ) scale, later adapted by Fornara et al. (2010).

The original scale is comprised of twenty scales measuring four areas of residential satisfaction including; architecture and town planning, which measures aspects of architectural aesthetics, layout of the neighbourhood, availability and extent of green areas and ease of getting around. The second area is people and social relations, which measures satisfaction with the types of people, crowding, and relationships between neighbours. The third area is punctual and in-network services, measuring satisfaction with various services, including, social, health, education, recreation, transport and shopping facilities. The final area is context features, measuring satisfaction with available opportunities, peacefulness, pollution, and upkeep. The PREQ scale could not be used here. In order to keep the questionnaire to an acceptable length for participants, satisfaction items from the PREQ were summarized to include overall attachment as well as satisfaction with seven aspects of the environment; Physical characteristics (e.g. buildings, monuments, rivers, trees, etc.), upkeep, services (e.g. health services, schools, shopping facilities, public transport, etc.), sport and leisure activities, parks and other green areas, environmental health (e.g. level of air pollution, level of noise pollution, traffic, etc. and privacy.
4.2.2.3 Items concerned with acceptability of behaviour

Part three consisted of measures of acceptability, socially and personally, of energy use behaviours within the home, once again measured on a seven-point Likert scale. In addition, participants were asked to what extent they would be willing to adopt a series of energy saving behaviours.

The items concerning acceptability of behaviour were part of a larger study, Reshaping energy demand of users by communication technology and economic incentives (REDUCE) a multidisciplinary project carried out at the University of Surrey and funded by the Engineering and Physical Sciences Research Council (EPSRC) which looked at public acceptability of and interaction with technology aimed at reducing consumption in domestic energy use, such as smart devices, and how behaviour may be changed because of them. These items were created by another researcher and therefore not included here.

4.2.2.4 Demographics and aspects of residency

Part four was made up of demographic questions, On the basis of the systematic review, it was concluded that the following demographics would be included; age, gender, area of residence, length of residence, involvement in neighbourhood social groups, and life satisfaction items. These were included as, referring to Table 3.5, these variables are very often included in place attachment studies but there is often disagreement as to whether they do predict residential place attachment. It was decided that it would be beneficial to explore some of these variables in relation to the systematic measure of residential place attachment being constructed in the present study.

4.2.2.5 Neighbourhood activities

Following the creation of the neighbourhood attachment measure, the thesis then explores differences between urban and rural residential attachment and whether increased attachment is associated with local, place and community protective behaviours, and sustainable behaviours. This will be discussed at length in the following chapter. It was mentioned here to explain that increased time spent at home, an impression that the neighbourhood has improved over the time one has lived there and involvement in community groups is associated with increased levels of attachment was explored as a precursor for the following studies, to give an indication as to whether increased time spent in the area, local involvement and one’s perception of the neighbourhood improved with attachment prior to embarking on
further research in the area. Aiello et al. (2010) found that increased time spent in the neighbourhood was associated with higher levels of attachment. In the present measure participants were asked how much time they spent at home to observe whether this also would influence neighbourhood attachment, the assumption being that even if one does not spend time participating in community activities and therefore may claim to not spend much time in the neighbourhood itself, if one spends time at home, one is also in the neighbourhood and may meet neighbours, go to the local shops, and so on.

The questionnaire can be found in Appendix 2.

4.3 Method

4.3.1 Risk Assessment and Ethical Approval

The research is not of a sensitive nature therefore there was no anticipated risk of psychological harm or distress to participants. The research was online and thus no risk to the researcher was envisaged.

Favourable ethical opinion for the study was given by the University of Surrey Ethics Committee. Also, the British Psychological Society’s ethical guidelines were followed throughout the study. Participants were advised that they would be able to withdraw from participating at any time. They were also advised that if they chose to withdraw, the information would not be stored or used. Furthermore, the participants were assured that the information which they provided was anonymous and would be treated confidentially.

4.3.2 Participants and procedure

Following construction of the questionnaire, outlined above, a pilot questionnaire was carried out. Ten participants gave feedback on the structure and wording of the questionnaire. On the basis of the pilot questionnaire one question was rephrased as it was considered potentially ambiguous and two participants reported that the questionnaire was too long. However, the length of the questionnaire was unavoidable as it was important to incorporate all variables in order to identify which variables were important for the development of residential place attachment. The measurement of each variable was limited to two items in order to keep the questionnaire as brief as possible. In addition, variables to be examined in relation to the newly constructed scale were kept to a minimum.
Participants were recruited through Arkenford Ltd., a market research company which carries out social research based in Guildford and previously used by the university. The benefits of recruiting a market research company include being able to collect a large, representative sample which reduce potential issues with reliability and validity.

A copy of the information sheet and questionnaire was sent to Arkenford as a word document. An online version was created by Arkenford using online questionnaire software. This was returned and checked prior to commencement of data collection. Arkenford were asked to recruit 500 participants, a nationally representative sample with regards to age and gender. Participants were recruited by Arkenford through their online questionnaire panel, “QArk”. The incentive paid for each neighbourhood questionnaire was 88p. Participants responded to an email inviting them to take part in the study. A link to the information sheet which outlined the study and to the questionnaire was also provided. Questionnaire data were collected during December 2013 and the SPSS data file was returned in two weeks and three days.

Arkenford contacted 5875 potential participants and received 637 completed questionnaires giving a response rate of 10.8%. 86 were excluded as the quota for their age or gender had been filled, 52 were excluded due to participants completing the questionnaire too quickly to have read the question properly, giving the same response to all questions, or having a substantial quantity of missing data. The final sample size was 499. Although the response rate was low the sample is representative of residents of England with regards to age and gender (Office for National Statistics, 2015) and calculating through G*Power, the sample meets the power requirements.

Length of residence in the neighbourhood ranged from 1 year to 63 years ($M = 16.51$, $SD = 13.02$)
Table 4.1: Sample demographics: gender and age

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>180</td>
<td>61.2</td>
</tr>
<tr>
<td>Male</td>
<td>101</td>
<td>34.4</td>
</tr>
<tr>
<td>Missing</td>
<td>13</td>
<td>4.4</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-30</td>
<td>14</td>
<td>4.8</td>
</tr>
<tr>
<td>31-45</td>
<td>71</td>
<td>24.1</td>
</tr>
<tr>
<td>46-55</td>
<td>61</td>
<td>20.7</td>
</tr>
<tr>
<td>56-65</td>
<td>67</td>
<td>22.8</td>
</tr>
<tr>
<td>66+</td>
<td>81</td>
<td>27.6</td>
</tr>
</tbody>
</table>

On investigation, it became evident that the majority of participants came from an urban neighbourhood. Only 2.3% of participants live in a rural residential environment.

In order to begin data screening and analysis negatively framed items were recoded and length of residence, which had been presented in two columns, years and months, was reduced to one column, and from the postcodes, area of residence was calculated.

4.3.3 Analysis

In order to create a systematic neighbourhood attachment measure which incorporated the most relevant variables included from those used in other attachment measures, the data set was randomly split into two subsets using the split file function of SPSS. An exploratory factor analysis was carried out on the first subset (N=250) followed by a confirmatory factor analysis being carried out on the second (N=249). The purpose of splitting the data set and carrying out a confirmatory factor analysis was to increase the validity of the model created in the exploratory factor analysis.

Both exploratory and confirmatory factor analyses are used to examine the covariance among a group of observed in terms of underlying latent structures, known as factors (Tabachnick & Fidell, 2013). Exploratory factor analysis is used, as its name suggests, as an exploratory method, when researchers have no prior knowledge of whether the observed variables are linked to the factors. If the observed variables are linked to the factors, the exploratory factor analysis identifies the strength of the factor loadings (Byrne, 2010), that is, how strongly the
variables are related to the factors. Once the hypothesised model has been identified through
the exploratory factor analysis, the next stage is to carry out a confirmatory factor analysis.
This is used here to validate the proposed model. The model is examined statistically by
means of evaluating the goodness of fit of the model (Byrne, 2010) to the second data set in
order to confirm that the model fits a new data set, increasing the construct validity (Jackson
et al., 2009).

The results of the questionnaire are analysed and discussed in the following section.

4.4 Results

4.4.1 Creating a neighbourhood attachment measure

4.4.1.1 Exploratory factor analysis

In order to determine what the dimensions of neighbourhood attachment are, an exploratory
factor analysis was carried through IBM SPSS. The data set was randomly split in half and
the correlation matrix was examined on one subset \((N = 250)\). Initial screening was carried
out where assumptions of multivariate normality and linearity were evaluated. Although
Mahalanobis distance test identified outliers, they were found to have no significant influence
and so were retained. Items which had a weak correlation \((<.3)\) with a number of other items
were excluded. The correlation matrix and R-matrix were also examined to search for high
correlations although none were identified. 18 items from the original 64 were excluded
from the factor analysis. Principal axis factor analysis with oblique rotation (direct oblimin) was
performed on the remaining 46 items. Oblique rotation presents a non-orthogonal’ solution,
allowing the resulting factors to be correlated with one another (Fife-Schaw, 2013). The
Kaiser-Meyer-Olkin measure confirmed the sample size was adequate \((KMO = .947)\). An
initial analysis was run to obtain eigenvalues for all factors. Seven factors had eigenvalues
over Kaiser’s criterion of one. However, after consultation of the scree plot, the parallel
analysis output, and the pattern matrices, five factors were ultimately extracted.

The table identifying Total Variance Explained demonstrates that 48.10% of variance is
explained by the first factor Affective bonds, which is considerably higher than the variance
explained by the other factors. However, when all five factors are included, the cumulative
explained variance rises to 67.99%.

The criterion for inclusion was set at \(\geq .55\). Items with loadings \(\geq \) of .55 were retained
following the guidelines set out by Comrey and Lee (1992, cited in Tabachnick and Fidell,
2013, p.654) who maintain that variables with loadings .55, interpreted as having 30% of overlapping variance, are considered good while loadings of .45 (20% overlapping variance) are considered only fair. Moreover, Tabachnick and Fidell (2013) advise that the cut-off is a matter of researcher preference and may be selected because interpretations are more coherent at that point.

Reliability for each of the factors denote high reliability (Factor A $\alpha = .94$, Factor B $\alpha = .91$, Factor C $\alpha = .91$, Factor D $\alpha = .87$, Factor E $\alpha = .82$).

4.4.1.2 Confirmatory factor analysis

In order to refine the measurement instrument produced through the exploratory factor analysis, as well as to assess its construct validity (Jackson et al., 2009), an application of structural equation modelling, confirmatory factor analysis, was conducted on the second subset.

Myers et al. (2011) found $N=200$ to be a sufficient sample size for a five factor model. Assumptions of multivariate normality and linearity were evaluated through IBM SPSS. Using Mahalanobis distance, outliers were identified although these were found to have no significant influence and thus all cases were retained. The data set contained missing values. Through Little’s Missing Completely at Random test, it was confirmed that these were indeed randomly distributed and therefore it was appropriate to substitute the missing values with estimated values using a maximum likelihood method by means of the structural equation modelling software AMOS 21.
Figure 4.1 illustrates the final attachment model which was hypothesised from the results of the exploratory factor analysis. This model will now be referred to as the comprehensive residential place attachment model. A total of twenty measured items were included in the model. Five items included in the exploratory factor analysis were excluded from the
confirmatory factor analysis due to poor fit. The higher level latent factor, Attachment, is considered accountable for the five lower order latent factors, Affective bonds, Efficacy and Control, Social Bonds, Perceived Security, and Memories and Experience. It is thus hypothesised that these five first order factors are components of attachment. A total of twenty measured items were included in the model.

Table 4.2: Table to illustrate variables found to be salient for residential place attachment in the model and the studies included in the systematic review.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Variables included in factor</th>
<th>Systematic review studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective Bonds</td>
<td>Miss the neighbourhood when away</td>
<td>21, 22, 23, 25, 32, 34</td>
</tr>
<tr>
<td></td>
<td>Desire to remain living in neighbourhood</td>
<td>1, 5, 6, 7, 8, 10, 11, 12, 14, 17, 18, 19, 20, 21, 22, 23, 25, 27, 28, 29, 30, 32, 37, 38</td>
</tr>
<tr>
<td></td>
<td>Special meaning</td>
<td>2, 3, 27, 37</td>
</tr>
<tr>
<td></td>
<td>Sense of pride</td>
<td>2, 3, 7, 8, 14, 21, 22, 23, 25, 26, 36</td>
</tr>
<tr>
<td>Efficacy and Control</td>
<td>Contributed to improving neighbourhood</td>
<td>3, 29, 38</td>
</tr>
<tr>
<td></td>
<td>Have control over decisions regarding the neighbourhood</td>
<td>10, 27, 29</td>
</tr>
<tr>
<td>Social Bonds</td>
<td>Friends live in the neighbourhood</td>
<td>1, 2, 3, 9, 10, 12, 14, 20, 23, 24, 27, 29, 30, 31, 33, 35, 37</td>
</tr>
<tr>
<td></td>
<td>Recognise and talk to people who live in neighbourhood</td>
<td>2, 5, 9, 10, 15, 24, 29, 33, 35</td>
</tr>
<tr>
<td>Perceived security</td>
<td>Live in a safe neighbourhood</td>
<td>10, 21, 22, 23, 24, 33, 35</td>
</tr>
<tr>
<td></td>
<td>Low crime levels</td>
<td>9</td>
</tr>
<tr>
<td>Memories and Experience</td>
<td>Important memories</td>
<td>26, 31</td>
</tr>
<tr>
<td></td>
<td>Familiarity</td>
<td>3, 12, 31, 21, 22</td>
</tr>
</tbody>
</table>
Table 4.2 displays the factors which make up the comprehensive residential place attachment model constructed from the exploratory and confirmatory factor analyses. Additionally, Table 3.2 includes the studies included in the systematic review which found the same variables to be salient for residential place attachment. What is highlighted in the table is that no single study includes the same variables as were found to be important in the systematic measure created here.

Model fit

In the current analysis the goodness of fit statistics are $\chi^2(159) = 322.388$, $p = <.001$. The $p$ value is significant which suggests that the data do not fit the hypothesised model adequately. However, it is widely acknowledged that the $p$ value is not a reliable goodness of fit (Byrne, 2010) and alternative, more reliable indices of goodness of fit have been developed. The results of these indices include $\text{CMIN/DF} = 2.03$; comparative fit index (CFI; Bentler, 1988) = .96; Tucker-Lewis index (TLI; Tucker & Lewis, 1973) = .94; root mean square error of approximation (RMSEA; Browne & Cudeck, 1993) = .06. The results indicate that the model represents a good fit to the data, according to the levels of acceptability put forward by Hu and Bentler (1999, CFI $\geq .95$, TLI $\geq .95$, RMSEA $\leq .06$).

The reliability of each of the factors was carried out using Cronbach’s alpha. The results indicated a high level of reliability for all factors (Affective bonds $\alpha = .91$, Efficacy and control $\alpha = .89$, Social ties $\alpha = .88$, Perceived security $\alpha = .82$, Memories and experience $\alpha = .86$).

Bonferroni Correction

Each time a test is carried out on a data set the probability of identifying a significant result due to chance increases (Type I error). In order to control for this, a Bonferroni correction test was carried out. Following the construction of the attachment model, three tests were carried out, a) a regression to further check the reliability of the model, b) a multiple regression to identify which variables are related to the overall model, and c) a multivariate multiple linear regression in order to identify which variables relate to each factor of the model. Therefore, the significance of test results using Bonferroni alpha levels is .0167.

A further reliability check

A linear regression was carried out in order to determine the relationship between the three-item attachment measure where participants were asked directly whether they feel attached to
their neighbourhood, and the neighbourhood attachment model hypothesised in the confirmatory factor analysis, as a further reliability measure. The data were screened and assumptions of linearity, independent errors and homoscedasticity were met and thus a regression was considered appropriate to determine whether the three-item measure predicts neighbourhood attachment according to the model. The results demonstrate that the proportion of variability that can be predicted in the comprehensive residential place attachment model by the three-item measure is 75% ($R^2 = .75$) which is significantly different from zero. $F (1,497) = 1492.95, P <.001$. The results suggest that the hypothesised model is a good measure of residential place attachment as it has a strong relationship with the measure created by directly asking participants whether they feel attached to their neighbourhood. The model contributes to an explanation as to why residents become attached to their neighbourhoods.

4.4.2 Measuring the strength of the relationship between independent variables and overall neighbourhood attachment

In order to estimate the effect of the predictor variables on neighbourhood attachment a regression was considered the most appropriate test. A multiple regression was carried out for two reasons. Firstly, in order to identify the relationship between each variable and neighbourhood attachment while controlling for all other included variables. And secondly, in order to avoid carrying out multiple tests on the same data which would have resulted in an increased possibility of making a Type 1 error, that is, mistakenly identifying an effect in the population (Field, 2013).

The data met the assumptions of independent errors, linearity, homoscedasticity, multivariate normality and no multicollinearity (Field, 2013). Group membership was the exception where skew and kurtosis scores were outside the limits of +/- 2, which is an acceptable limit for a sample of 499 (Fife-Schaw, 2013). On inspection, it was found that the data were positively skewed, indicating that most participants were not members of any groups (71.4%). Transforming the data was not a feasible option as it would then be necessary to transform the data for all variables included in the analysis and so it was decided to treat group membership as binary, categorical data, distinguishing between participants who were members of groups and those who were not. Three cases were found to have standardized residuals outside the acceptable limits, although both had a Cook’s distance score below one. The cases had no undue influence on the model and were therefore retained (Field, 2013).
A linear multiple regression analysis using the ENTER method was carried out to assess the importance of gender, age, place of residence, length of residence, time spent at home, perceived neighbourhood improvement, local group membership, satisfaction with life, affective appraisals and satisfaction with aspects of the neighbourhood were related to neighbourhood attachment.

The findings of the regression are presented in Table 4.3.

The overall model was statistically significant, $F(22, 420) = 53.71, P < .001, R^2 = .74, Adj. R^2 = .73$ indicating that 73% of the variability in residential place attachment variables is predicted by the independent variables in Table 3.3.

Six variables were found to predict residential place attachment. The variable which contributed most to predicting residential attachment is ‘overall satisfaction’ with the neighbourhood. Followed by two affective appraisals, ‘exciting’ and ‘pleasant’, ‘length of residence’, ‘group membership’, and ‘satisfaction with privacy’.

‘Overall satisfaction’ for one’s residential area was found to be most strongly related to residential place attachment. From the variables exploring satisfaction with specific aspects of neighbourhood life, only ‘satisfaction with privacy’ was found to be significantly related to residential place attachment. ‘Life satisfaction’ was only weakly related and was not strongly correlated with overall satisfaction with the neighbourhood ($r = .46$).

The positive appraisals ‘exciting’ and ‘pleasant’ are significantly positively related to residential attachment. No negative appraisals were found to have a significant relationship with residential attachment.

The regression analysis will be discussed in the next section of the chapter in relation to findings from the following multivariate multiple linear regression which was carried out to explore the relationship between the predictor variables and the five factors of the neighbourhood attachment model.
Table 4.3: Multiple regression results illustrating the relationships between demographic variables, length of residence, time at home, group membership, satisfaction and residential place attachment

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>$SE$</th>
<th>$B$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.27</td>
<td>0.35</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.06</td>
<td>0.07</td>
<td>0.03</td>
<td>0.347</td>
</tr>
<tr>
<td>Age</td>
<td>-0.03</td>
<td>0.03</td>
<td>-0.03</td>
<td>0.377</td>
</tr>
<tr>
<td>Place of residence</td>
<td>0.01</td>
<td>0.01</td>
<td>0.02</td>
<td>0.537</td>
</tr>
<tr>
<td>Length of residence</td>
<td>0.02</td>
<td>0.00</td>
<td>0.20</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Time at home</td>
<td>0.00</td>
<td>0.00</td>
<td>0.03</td>
<td>0.228</td>
</tr>
<tr>
<td>Neighbourhood improvement</td>
<td>-0.02</td>
<td>0.03</td>
<td>-0.02</td>
<td>0.502</td>
</tr>
<tr>
<td>Group membership</td>
<td>0.31</td>
<td>0.07</td>
<td>0.12</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>0.06</td>
<td>0.02</td>
<td>0.07</td>
<td>0.022</td>
</tr>
<tr>
<td><strong>Affective appraisals</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stressful</td>
<td>0.01</td>
<td>0.03</td>
<td>0.01</td>
<td>0.786</td>
</tr>
<tr>
<td>Exciting</td>
<td>0.19</td>
<td>0.03</td>
<td>0.25</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Boring</td>
<td>0.17</td>
<td>0.03</td>
<td>0.03</td>
<td>0.446</td>
</tr>
<tr>
<td>Relaxing</td>
<td>0.04</td>
<td>0.03</td>
<td>0.06</td>
<td>0.215</td>
</tr>
<tr>
<td>Pleasant</td>
<td>0.15</td>
<td>0.04</td>
<td>0.21</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Depressing</td>
<td>0.00</td>
<td>0.03</td>
<td>0.00</td>
<td>0.948</td>
</tr>
<tr>
<td><strong>Satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall satisfaction</td>
<td>0.22</td>
<td>0.04</td>
<td>0.29</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Physical characteristics</td>
<td>0.01</td>
<td>0.03</td>
<td>0.01</td>
<td>0.757</td>
</tr>
<tr>
<td>Upkeep</td>
<td>-0.01</td>
<td>0.03</td>
<td>-0.02</td>
<td>0.722</td>
</tr>
<tr>
<td>Services</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td>0.340</td>
</tr>
<tr>
<td>Sport and leisure facilities</td>
<td>0.02</td>
<td>0.03</td>
<td>0.02</td>
<td>0.509</td>
</tr>
<tr>
<td>Parks and green spaces</td>
<td>-0.01</td>
<td>0.03</td>
<td>-0.01</td>
<td>0.864</td>
</tr>
<tr>
<td>Environmental health</td>
<td>0.03</td>
<td>0.03</td>
<td>0.04</td>
<td>0.277</td>
</tr>
<tr>
<td>Privacy</td>
<td>0.08</td>
<td>0.03</td>
<td>0.11</td>
<td>0.008</td>
</tr>
</tbody>
</table>

$N = 443$
4.4.3 Measuring the strength of the relationship between independent variables and the five factors of residential place attachment

A multivariate multiple linear regression was employed to measure the strength of the relationships between the socio-demographic variables, affective appraisals and satisfaction variables with the five factors of the residential place attachment model. To determine which variables were statistically significant, the results from Pillai’s Trace were used as it is argued to be the most powerful and most robust of the four test statistics included in the analysis (Olson, 1979). Of the socio-demographic variables, age, length of residence, group membership, life satisfaction, were found to be statistically significant overall. As were, stressful, exciting, boring, relaxing and pleasant, of the affective measures and the statistically significant satisfaction variables include, life satisfaction, overall satisfaction and privacy. The significant relationships between the predictors and the five residential attachment factors are found in Table 4.4.

The variable which significantly explains the most variance (11%) in the factor Affective Bonds is Exciting. The results of the multivariate multiple linear regression suggest that those who find their residential area both an exciting place but also a place where one can relax, those who are satisfied overall with their residential and have lived there longer will demonstrate stronger affective bonds.

Regarding the second factor, Efficacy and Control, those who are members of local group, find their neighbourhood exciting, have lived there longer and are satisfied with their lives will feel more efficacious and in control of aspects of their neighbourhood.

Group membership, length of residence and life satisfaction are also important for developing Social Bonds, as are feelings that the neighbourhood is exciting and pleasant.

Overall satisfaction with the neighbourhood as well as satisfaction with privacy and feeling that the neighbourhood is stressful, boring, pleasant and relaxing is associated with increased Perceived Security.

Being older and living in the neighbourhood for longer, feeling an overall sense of satisfaction with the neighbourhood as well as the level of privacy, and seeing the neighbourhood as an exciting and pleasant place to live are associated with more memories and experiences.
Table 4.4: Multivariate multiple linear regression results illustrating the significant relationships between demographic variables, length of residence, time at home, group membership, satisfaction and affective appraisals and the five factors of residential place attachment.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Predictor variables</th>
<th>F</th>
<th>p</th>
<th>Partial ( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affective bonds</td>
<td>Length of residence</td>
<td>11.56</td>
<td>.001</td>
<td>.027</td>
</tr>
<tr>
<td></td>
<td>Exciting</td>
<td>53.61</td>
<td>&lt;.001</td>
<td>.113</td>
</tr>
<tr>
<td></td>
<td>Relaxing</td>
<td>8.36</td>
<td>.004</td>
<td>.020</td>
</tr>
<tr>
<td></td>
<td>Overall satisfaction</td>
<td>40.53</td>
<td>&lt;.001</td>
<td>.088</td>
</tr>
<tr>
<td>Efficacy and control</td>
<td>Length of residence</td>
<td>10.37</td>
<td>.001</td>
<td>.024</td>
</tr>
<tr>
<td></td>
<td>Group membership</td>
<td>52.16</td>
<td>&lt;.001</td>
<td>.110</td>
</tr>
<tr>
<td></td>
<td>Exciting</td>
<td>40.18</td>
<td>&lt;.001</td>
<td>.087</td>
</tr>
<tr>
<td></td>
<td>Life satisfaction</td>
<td>5.88</td>
<td>.016</td>
<td>.014</td>
</tr>
<tr>
<td>Social bonds</td>
<td>Length of residence</td>
<td>16.16</td>
<td>&lt;.001</td>
<td>.037</td>
</tr>
<tr>
<td></td>
<td>Life satisfaction</td>
<td>8.61</td>
<td>.004</td>
<td>.020</td>
</tr>
<tr>
<td></td>
<td>Exciting</td>
<td>22.75</td>
<td>&lt;.001</td>
<td>.051</td>
</tr>
<tr>
<td></td>
<td>Pleasant</td>
<td>7.31</td>
<td>.007</td>
<td>.017</td>
</tr>
<tr>
<td>Perceived security</td>
<td>Stressful</td>
<td>26.79</td>
<td>&lt;.001</td>
<td>.060</td>
</tr>
<tr>
<td></td>
<td>Boring</td>
<td>9.75</td>
<td>.002</td>
<td>.023</td>
</tr>
<tr>
<td></td>
<td>Relaxing</td>
<td>7.79</td>
<td>.005</td>
<td>.018</td>
</tr>
<tr>
<td></td>
<td>Pleasant</td>
<td>10.93</td>
<td>.001</td>
<td>.025</td>
</tr>
<tr>
<td></td>
<td>Overall satisfaction</td>
<td>13.43</td>
<td>&lt;.001</td>
<td>.031</td>
</tr>
<tr>
<td></td>
<td>Privacy</td>
<td>24.85</td>
<td>&lt;.001</td>
<td>.056</td>
</tr>
<tr>
<td>Memories and experience</td>
<td>Length of residence</td>
<td>79.75</td>
<td>&lt;.001</td>
<td>.160</td>
</tr>
<tr>
<td></td>
<td>Age</td>
<td>9.03</td>
<td>.003</td>
<td>.021</td>
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<tr>
<td></td>
<td>Exciting</td>
<td>13.18</td>
<td>&lt;.001</td>
<td>.030</td>
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<td></td>
<td>Pleasant</td>
<td>8.10</td>
<td>.005</td>
<td>.019</td>
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<td>Overall satisfaction</td>
<td>17.20</td>
<td>&lt;.001</td>
<td>.039</td>
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<td></td>
<td>Privacy</td>
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<td>.007</td>
<td>.017</td>
</tr>
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</table>
4.5 Discussion

4.5.1 Comprehensive Residential Place Attachment Model

Overall, the results demonstrate that residential place attachment is a multi-dimensional construct. The exploratory factor analysis results indicate that affect is central to residential place attachment. This result was expected from the results of the systematic review which identifies affect to consistently be considered central to place attachment among place attachment researchers. This finding supports the argument put forward by a number of researchers, (e.g., Altman and Low, 1992; Hernández et al., 2007; Scannell & Gifford, 2010a). This study found other concepts to also pertinent to the presence and development of residential place attachment, specifically, feelings of efficacy and control, social bonds in the neighbourhood, perceived security, and memories and experience. Therefore residential place attachment is now defined as an attachment to the residential area incorporating affective feelings about the physical environment, social ties, a collection of memories and experiences about the place and events taking place within the place, a sense of efficacy and control, and a sense of safety.

Table 4.2 lists the five factors and variables which loaded onto each of those factors of the neighbourhood attachment model. It also identifies the systematic review studies which included the variables. Items included in the affective bond factor considered emotions when the participant is distanced from the neighbourhood, a desire to remain living in the area, the neighbourhood having special meaning to the resident, and a feeling of pride from living in the neighbourhood. Negative feelings when away from the neighbourhood is incorporated into a number of the attachment measures included in the systematic review (e.g., Lewicka, 2008, 2010, 2011a; Mesch & Manor, 1998). Feeling a sense of desire to remain living in the area is the most commonly included variable in the systematic review measures (e.g., Bonaiuto et al., 1999; Hernández et al., 2007 (17); Lewicka, 2008, 2010, 2011a). The neighbourhood having special meaning to the resident was included in very few studies. Pendola & Gen (2008) included it in the quantitative measure while Anguelovski (2013 (3)) points out that meaning is part of attachment in her qualitative study. Finally, the feeling of pride residents feel from living in the neighbourhood was found to be part of the ‘affective bond’ dimension of neighbourhood attachment (see also Brown et al., 2003, 2004; Lewicka, 2008, 2010, 2011a).
The second factor uncovered by the factor analyses was labelled ‘efficacy and control’. Items included here reflect the feeling that residents have a say in decisions made regarding the neighbourhood, which was only included in two of the systematic review studies (Carson et al., 2010; Pendola & Gen, 2008) and feel they have made a contribution to enhancing the neighbourhood in some way. A feeling of efficacy has been linked to participation in sustainable behaviours (Smith et al., 2012) and will be discussed in depth in the following chapter.

The third factor of the neighbourhood attachment model is labelled ‘social bonds’. Incorporated into this dimensions are items which reflect having friends living in the neighbourhood (see also, for example, Burholt, 2012; Skjæveland et al., 1996 (33)), frequency of speaking to neighbourhood and recognising people in the neighbourhood (e.g., Bolan, 1997; Burholt, 2012).

The fourth factor is concerned with feelings of safety in the neighbourhood and perception of crime. It is labelled ‘perceived security’. Feelings of safety and perception of crime have been included in relatively few attachment measures (cf. Burholt, 2012; Lewicka, 2008, 2010, 2011a and three others). It is more commonly found to be included as a predictor of attachment (e.g., Bonaiuto et al., 1999; Greif, 2009). However, for those who argue neighbourhood attachment is an application of Bowlby’s (1969, 1982) attachment theory, and the place one is attached to is regarded as a safe haven (section 3.2.3), it follows that feeling safe would be part of attachment.

The final factor was given the term ‘memories and experience’. It refers to memories of events occurring in the neighbourhood and a feeling of familiarity. Memories have been argued to be salient for residential place attachment (e.g., Manzo, 2005; Lewicka, 2008). A feeling that the place is familiar might be linked to place dependence (Stokols & Shumaker, 1981) where the physical features or practical aspects of the place are most important. However, other variables reflecting the practical aspects, such as convenience/ease of getting around, and financial or work ties do not load onto the factor. This may be due to increased mobility.

Referring to Table 4.2, the comprehensive residential place attachment model did not consistently agree with any previous study as to the concepts and dimensionality of attachment. Some studies include various aspects of affect but not others. For example, Stedman (2006) included an item or items concerned with feelings when away from the place
but included no other concepts included in the present measure. As well as ‘feelings about leaving’, Williams et al. (2010) include an item concerned with the place having special meaning, but not the other concepts, and so on. Five studies shared five variables with the neighbourhood attachment model (e.g., Anguelovski, 2013 (3); (10) Carson et al., 2010). For example, (21, 22) Lewicka (2008, 2010) shared three variables with those included in the Affective Bonds, as well as including an item concerning neighbourhood safety and one concerning familiarity. Anguelovski (2013 (3)) found residents reported variables included in four of the five factors, excluding only Perceived security. The differences highlight the disagreement in the residential place attachment research with regards to what residential place attachment is and how it should be measured.

Furthermore, some variables included in the comprehensive residential place attachment model have been included as part of residential place attachment, but elsewhere as a predictor of place attachment, for example, feelings of safety is put forward as part of the place attachment model in some studies (21, 23) Lewicka, 2008, 2011a; Taylor, 1996) but as a predictor of place attachment in others (Brown et al., 2003, 04; Greif, 2009; Woldoff, 2002). Likewise, social ties are included in some models (Greif, 2009; Woldoff, 2002) but as predictors in others (Bailey et al., 2012; Stedman, 2006).

A sense of belonging, a sense of community, shared values, a stable neighbourhood, feeling interested in what goes on in the neighbourhood, Involvement in social events, financial ties and work ties, an interest in the history of the place and family roots in the place were all excluded from the neighbourhood attachment measure as they did not significantly load onto any of the factors. Studies included in the review date back to 1981. Although this is only thirty-five years ago, society is constantly changing. Lewicka (2011b, p. 209) argues that the world has changed in various ways including, “increased mobility, globalisation, growing homogeneity of places, loss of cultural specificity”, the assumption being that reasons for attachment will have also changed. For example, some earlier research has found family living in the neighbourhood to be important for attachment (Young & Wilmott, 1957), while later research found it to have no effect (Mesch & Manor, 1998). One explanation for this is that people have become increasingly more mobile (Gustafson, 2008) and it is probably not as common to live in the same neighbourhood as one’s family. Mesch & Manor (1998) explain that kin relationships are less likely than other social relationships to depend on living proximity. Family will be more likely to keep in touch regardless of where family members move to.
Gustafson (2008) argues that mobility does not mean a decrease in attachment, but that mobile individuals are attached for different reasons than non-mobile individuals. The excluded variables might be argued to be of less importance in a more mobile society, supporting Feldman’s (1996 (12)) argument that people become attached to a type of place rather than specific places might explain why individuals do not feel a sense of belonging. Savage (2010) argues that shared values and a sense of community, an interest in what goes on in the neighbourhood, in other words, social aspects of the place, are of less importance to newcomers to the neighbourhood, or those with “elective belonging”.

However, the comprehensive residential place attachment model demonstrates that people do still develop strong attachments to their neighbourhoods. Moreover, social ties are very important for attachment, as many other researchers have also found (e.g., Burholt, 2012; Kimpton et al., 2014). Livingston et al. (2010) found social ties to be the most salient reason for residential place attachment. Furthermore, while financial and work ties are of less importance in a more mobile society where a considerable number of people commute (Office for National Statistics, 2011), Gustafson (2008) found that both mobile and non-mobile residents demonstrated strong attachments to their residential areas. The conclusion being drawn here is that in general, residential place attachment has not decreased but reasons for attachment have changed.

Feeling distinctive because one’s lives in the neighbourhood, a feeling of self-esteem and a sense of continuity were not found to be part of residential attachment, nor did the variable tapping identity, that is, liking the neighbourhood because of the type of person one is. This lends support to the argument that attachment and identity are separate concepts (Hernández et al., 2007; Ruiz et al., 2011; Twigger-Ross & Uzzell, 1996). These variables represent aspects of Breakwell’s identity process model (1986, 1992, 1993) to which Twigger-Ross & Uzzell (1996) found attachment to be related but who argued precedes identity.

3.5.2 The relationship between independent variables and residential place attachment

Analysis of the relationship between the socio-demographic and neighbourhood activity variables and residential place attachment was undertaken in two parts. Firstly, the effect of the variables on the overall residential place attachment model was tested. Following this, the effect of the variables on each factor was considered in order to explore further the dimensionality of residential attachment.
Gender

Gender was found to have no significant relationship with residential place attachment overall, or any of the dimensions of attachment. In the studies included in the systematic review 50% found gender to be significantly related to attachment. Where gender was found to have a significant relationship, women were found to be more highly attached than men. In the systematic review studies there appears to be no real difference in what was included in the residential place attachment measures and whether gender was found to be significantly related to attachment or not. Both significant and non-significant relationships were found where attachment measures were one- and multi-dimensional, where they include items dealing with affect, as well as other aspects, for example, social ties and efficacy. Although referring to Table 3.3, there appears to be no pattern in the systematic review study findings, these findings would suggest the relationship between gender and attachment is mediated by other variables.

Age

Age was also found to have no significant relationship with neighbourhood attachment overall, although it was found to predict variance, albeit only 2%, in the ‘memories and experience’ dimension. As one grows older it follows that one would accumulate memories and significant experiences in the place where one lives. 65% of the studies in the systematic review which had included age as a predictor found a significant relationship. Again, there appears to be no pattern to how attachment measures were constructed and whether a significant relationship was found. Age was found to predict attachment in some studies, (e.g. Lewicka, 2010), was found to be too highly correlated with length of residence to be included in analysis in others (e.g. Aiello et al., 2010), and found to not be a significant predictor in others (e.g. Rollero & De Piccoli, 2010 (30)).

Length of residence

Considering previous research, it was expected that length of residence would have been the strongest predictor of residential place attachment. For example Bailey et al. (2012, p.210) argue that is the “key influence”. Length of residence is frequently found to be associated with attachment, for example, in the systematic review, 70% of the studies which included length of residence, found it be a significant positive predictor of attachment. In another review, Lewicka (2011b) also found length of residence to most frequently predict attachment to residential and recreational places. In the current study length of residence was
found to have a significant positive relationship with neighbourhood attachment. However, it was not the strongest predictor. Overall satisfaction with the neighbourhood was a slightly stronger predictor of residential place attachment.

Despite length of residence not being the strongest predictor of the overall attachment model (Table 4.3) the results of the multivariate multiple regression demonstrate that when the factors are examined separately, length of residence is found to be the strongest predictor (Table 4.4). Length of residence predicts 16% of the variance in the ‘memories and experience’ factor. In addition, it predicts a significant proportion of variance in three of the other factors.

Length of residence is also a significant predictor of three of the other factors, Affective bonds, ‘efficacy and control’, and ‘social bonds’ which indicates its importance for the development of neighbourhood attachment. However, it only explains a relatively small amount of variance of each of these, (3%, 2%, and 4% respectively) which helps explain why it is not the overall strongest predictor of neighbourhood attachment. Length of residence does not contribute towards a variance in ‘perceived security’ suggesting that feelings of safety do not increase the longer one lives in a neighbourhood.

**Place of residence**

The area in which people lived was found to have no significant association with attachment levels.

**Time spent at home**

As discussed in the Introduction, rather than asking participants how much time they spent in the neighbourhood as Aiello et al. (2010) did, participants in the current study were asked how much time they spent at home. Time spent at home had no significant relationship with the overall attachment model or any of the dimensions (Tables 4.3 & 4.4). Rather than asking about time spent at home, it may have been more useful to ask about time spent in the neighbourhood.

**Perceived neighbourhood improvement**

Perceived neighbourhood improvement had no significant relationship with the overall residential place attachment model or any of the dimensions (Tables 4.3 & 4.4).
Group membership

Group membership was significantly positively related to overall residential place attachment (Table 4.3). According to the multilevel multiple regression which explored further the relationship between the predictors and factors, group membership was found to explain 11% of the variance in the efficacy and control dimension (Table 4.4).

Affective appraisals

Of the affective appraisals exciting, relaxing, pleasant, stressful, boring, and depressing, two of the positive appraisals, exciting and pleasant were significantly positively related to overall residential place attachment (Table 4.3). Exciting was found to be significantly related to four of the five dimensions; affective bonds, efficacy and control, social bonds, and memories and experience. Pleasant is significantly related to ‘social bonds’, ‘perceived security’ and ‘memories and experience’ (Table 4.4).

Other affective appraisals which were found to be associated with dimensions of residential place attachment include, the third positive appraisal, relaxing, which was significantly positively related to affective bonds and perceived security. Two of the negative appraisals, stressful and boring, had a significant positive relationship with ‘perceived security’.

It was anticipated that one or more of the negative appraisals might have a significant negative relationship with attachment but rather surprisingly, this was not the case. Although Cooper Marcus (1995) and Anthony (1997) argue that negative feelings are associated with low residential place attachment, the research exploring negative aspects of attachment is extremely lacking. It follows that participants who chose to complete a questionnaire about neighbourhood attachment are those who feel they are attached to their neighbourhood. In the present study low attachment was not explored. These findings indicate that researchers need to target residents who feel they have little attachment to their residential area to explore this gap in the research.

Satisfaction

Overall satisfaction and privacy were the only satisfaction variables which had a significant relationship with overall attachment and any of the dimensions (Tables 4.3 & 4.4). Overall satisfaction was significantly related to ‘affective bonds’, ‘perceived security’ and ‘memories and experiences’ while privacy was related to ‘perceived security’ and ‘memories and experience’. Overall satisfaction with the neighbourhood was found to explain the most
variance. Satisfaction is commonly examined in association with place attachment (Amérigo & Aragones, 1990; Bonaiuto et al., 1999; Ramkissoon, et al., 2013; Stedman, 2002) and the results here similarly demonstrated a significant, positive relationship. However, what was particularly interesting was that of the specific aspects of the neighbourhood which participants were asked to report their satisfaction with, only privacy demonstrated a significant relationship. Participants were also asked how satisfied they were with their life in general and although this was not found to predict neighbourhood attachment, it was found to be significantly positively related to the ‘efficacy and control’ as well as the ‘social bonds’ dimensions of the model. In order to better understand these results we might employ the Perceived Residential Environment Quality (PREQ) scale (Bonaiuto et al, 1999; Fornara et al., 2010) which incorporates a great many aspects of satisfaction and measures its relationship to place attachment. In the present study, it was not possible to use the PREQ scale as it consists of one hundred and twenty-six items. However, it would be interesting in future research to examine the PREQ scale in relation to the systematic neighbourhood attachment scale which has been constructed in the present study.

When the model is broken down and each of the factors examined different variables are found to contribute to the different factors. If researchers are only considering, for example, affective feelings, and ignore the other component parts of the overall concept of residential place attachment, that is, social ties, memories and experience, perceived security, and knowledge and experience, some variables will not appear to be important, for example, the age of the participant or how satisfied he/she is with levels of privacy in the neighbourhood. These findings offer a further explanation as to why findings in neighbourhood and place attachment research are so inconsistent.

Although the model was found to be a good fit to the data, it is possible that there are other aspects of neighbourhood attachment which have not been included. Therefore, further qualitative research was carried out to explore whether there are other reasons for feelings of attachment to one’s residential environment.

4.6 Conclusion

In Chapter Three the variables identified as being important to neighbourhood attachment based on the systematic review were incorporated into a questionnaire in order to test their significance and reliability. Following completion of the questionnaire by 499 participants, an exploratory factor analysis was carried out on half of the data set through which a
hypothesised residential place attachment model was created. On the second half of the data set, the fit of the model was tested through a confirmatory systematic analysis. Residential place attachment was found to be a multi-dimensional construct consisting of five factors: ‘affective bonds’, ‘efficacy and control’, ‘social bonds’, ‘perceived security’, and ‘memories and experiences’.

When the socio-demographic variables, area and length of residence, group membership, aspects of satisfaction and affective feelings were explored in relation to neighbourhood attachment the variables overall satisfaction with the neighbourhood, the affective appraisals exciting and pleasant, length of residence, group membership and satisfaction with privacy were found to be significantly positively related to attachment.

Different predictors were found to be significantly related to the various dimensions of residential place attachment. The factor ‘affective bonds’ was predicted by length of residence, the affective appraisals exciting and relaxing, and overall satisfaction. Length of residence, group membership, the affective appraisal exciting, and life satisfaction predicted ‘efficacy and control’. Length of residence, life satisfaction, and the affective appraisals exciting and pleasant were significantly related to ‘social bonds’. The affective appraisals stressful, boring, relaxing, and pleasant, overall satisfaction with the neighbourhood and satisfaction with privacy were positively related to perceived security’. And finally, length of residence, age, the affective appraisals exciting and pleasant, overall satisfaction and satisfaction with privacy predicted ‘memories and experiences’. These findings contribute to the explanation of why there are inconstancies in the research findings as different model incorporate various aspects of the model constructed here. Therefore, it is conceivable that independent variables will be found to have a significant relationship with residential place attachment only when those aspects of residential place attachment which they have been found to relate to are included in the comprehensive residential place attachment model used.

The questionnaire constructed in Study 2 was employed in the next study which addresses, in part, the final three aims of the thesis. Study 3 explores whether there are different aspects of residential place attachment are important in urban, semi-rural and rural environments. The relationship between the predictors and the five factors of residential place attachment were then explored to identify whether different predictors are salient in the different types of environment. Study Three also examines whether residential place attachment plays a role in
sustainable behaviours which have an impact on the local environment and general sustainable behaviours.
Chapter Five

Study 3:

Quantitative analysis of residential place attachment in urban, semi-rural and rural residential environments

5.1 Chapter Introduction

Following the systematic review, discussed in Chapter Three, a residential place attachment model was constructed and tested (Figure 3.1). The model identified the critical factors which constitute residential place attachment. The variables included are a product of the 39 studies included in the review which has supported their validity and reliability. Study 2 however, went further to examine the variables in the context of a number of other variables. While we can never be sure that every dimension of residential place attachment has been captured, what we can claim is that a) for the first time, we now have a more comprehensive and inclusive model than previous models, b) these variables can be discussed in a multi-dimensional way as opposed to separately, or only a few, and c) we are now in a better position to understand how these variables relate to other variables which may act as mediators or moderators. These points are important to consider in relation to the first research question, that is, how residential place attachment should be conceptualised. For example, taking into consideration what variables moderate residential place attachment may explain the inconsistent findings in the literature with regard to determining which variables are salient for the development of residential place attachment and under what circumstances.

Study 3 addresses the fourth and fifth aims of the thesis. It employs the systematic measure constructed in Study 2 in the real world. In order to identify whether the residential place attachment model is sensitive to differences, it was applied in three types of places; urban, semi-urban and rural residential environments as these are important landscapes in British culture. Following this, it explores the relationships between residential place attachment, social cohesion, community environmental actions and personal environmental actions.

Until now the focus of the thesis has been about defining and conceptualising residential place attachment. This was necessary in order to address the research question exploring the relationship between residential place attachment and sustainable behaviours, specifically community and personal environmental actions. So having more accurately defined and
conceptualised residential place attachment, an instrument is constructed in Study 3 which explores moderating variables for residential place attachment and outcome variables, that is, whether residential place attachment is related to community and personal environmental actions.

As discussed, place attachment has been applied in a number of areas, such as social housing policy, natural resource management, sustainable behaviour participation, as well as a number of others. However, because of the inconsistencies regarding what attachment is and how it is conceptualised, place and residential attachment cannot be applied to wider research areas, such as those listed in section 1.1, in an effective manner. The relationship between attachment, social cohesion, community environmental actions and personal environmental actions is considered, addressing the third and fourth research questions, that is, whether there is a relationship between social cohesion and residential place attachment and how residential place attachment contributes to community and personal environmental actions. With regard to the specific aims, listed in section 1.1, it addresses the fourth and fifth aims. Specifically, it uses the systematic measure to examine the difference between residential place attachment in urban semi-rural and rural residential environments. It also examines the relationship between residential place attachment, social cohesion, community environmental actions and personal environmental actions.

Study 3 employs the systematic residential place attachment measure constructed in Study 2 in order to examine whether there are significant differences in attachment in urban, semi-rural and rural residential environments. In addition, it seeks to identify whether residential place attachment is associated with community environmental actions and finally, whether residential place attachment is linked to propensity to perform personal environmental actions. In more detail, the study aims are to:

Contrast attachment in urban, semi-rural and rural residential environments.

Examine the various relationships between attachment in the three places, social cohesion, community environmental actions and personal environmental actions.

5.2 Study areas

Various locations within West and North Yorkshire were chosen to represent urban, semi-rural and rural residential environments. Some of the villages in North Yorkshire are among the most rural in England and the areas chosen in North and West Yorkshire were focused on
as they are familiar places to the researcher and knowledge about the areas, available amenities and community activities was useful to know prior to questionnaire construction and data collection.

5.2.1 Urban areas

While three areas were chosen in the semi-rural and rural environments, the same number of questionnaires were being distributed in each of the environments and as urban areas are so much larger, have a greater variety of housing and much more highly populated only two urban areas were selected.

Roundhay

Photograph 5.1: View of Roundhay

Roundhay is a large suburb in the north-east of Leeds. It developed as a suburb following the purchase of the estate of Roundhay by Leeds Town Council in 1871 for use as a public park (Keith, 2007). The surplus land was sold for development and Roundhay now contains a
variety of types of properties. Some of the large Victorian houses remain, some have been converted into flats. There are also semi-detached and terrace houses which were built after the introduction of faster and more efficient forms of public transport in the late 1800s connecting the area to Leeds (Keith, 2007). Neighbourhoods in which questionnaires were distributed included various types of housing. There are many amenities including doctors, dentists, schools, churches, a synagogue, sports centres, supermarkets, banks, a post office, restaurants, pubs, cafés, shops. There are many community groups and clubs, including a number of sports groups, a Women’s Institute group, music groups, a knitting group, and a baby and toddler group, among others. In addition, there are a number of environmental groups in Leeds, such as, Transition Inner North-West of Leeds, Leeds Friends of the Earth. Groups specific to Roundhay include Friends of Roundhay Park and Roundhay Environmental Action Projects (REAP). REAP formed in 2008 and has over 150 members and over 500 e-bulletin subscribers (REAP, 2014). They are responsible for a monthly farmers’ market which began in 2008 and are jointly responsible, with Friends of Roundhay Park, for the annual Roundhay and Oakwood Festival. The first festival took place in 2011. It is argued by residents interviewed in Study 4 as having “a fairly stable community” (Rita) and being “family friendly” (Janet).
Dalton

Photograph 5.2: View of Dalton

Dalton is a suburb of Huddersfield. Huddersfield and its suburbs grew substantially towards the end of the nineteenth century. The manor of Huddersfield was bought in 1599 by the Ramsden family and with the opening of Cloth Hall in 1766 and the Ramsden Canal in 1780, the area became an important wool producer (Tolson Museum, 2015). The industrial revolution and the development of steam power resulted in the construction of a number of mills in and around Huddersfield. Through the 1900s along with the development of the textile industry engineering and chemical industries also developed to improve machines and dyestuffs (Huddersfield Local History Society, 2015) which resulted in a growth in population and housing in the town and suburbs. Housing is mainly made up of semi-detached houses and terraces. There is an increase in houses being used for student accommodation in part of Dalton although not to a great extent. The population in 2013 was reported to be 11,066 (Kirklees Observatory, 2013). There is a park on the outskirts if Dalton on the opposite side of the busy main road.
Like Roundhay, being close to the centre, there are many nearby amenities such as Doctors, schools, a sports and community centre and so on. However, there are very few community groups and clubs. One resident interviewed in Study 4 explains that there are “a lot of areas for recreation and things to make your own entertainment but nothing much set up” (Oscar).

### 5.2.2 Semi-rural areas

**Slaithwaite**

Photograph 5.3: View of Slaithwaite

Slaithwaite (pronounced as “Slawit” or “Slathuait” by locals) is a semi-rural area in the Colne Valley, West Yorkshire. There is disagreement among residents as to whether it is a town or village. Slaithwaite is approximately six miles away from the nearest town, Huddersfield in the direction of the Peak District National Park. There are good public transport links to Huddersfield and Manchester, which is approximately thirty miles away. Many residents are people whose families have lived in the area for generations, working in the mills when they were functioning. The mills employed most of the people in the village and around and included mills producing woollen cloth, cotton spinning, machine and steam engines, scribbing and stubbing (preparing raw fleece for spinning) (Yorkshire Colne Valley Now, N.D.). It also competed with nearby Harrogate as a spa town after the discovery of the spa in 1907 (Yorkshire Colne Valley Now, N.D.). With the closing of the mills in the 1970s what
was once a polluted village, veiled in smog (Slaithwaite Directory, 1997), has become a picturesque area with beautiful views and now, with the improvement of public transport, there is a growing population of commuters who work in Manchester or Huddersfield who have chosen to live in a more rural location. There are various types of housing. Traditionally there were weavers’ cottages but with the opening of the large mills towards the end of the nineteenth century and population growth in the area due to this, terrace houses were built to accommodate the mill workers. There are also some large detached houses traditionally belonging to mill owners and more recently semi-detached houses have been built. The population in 2013 was reported to be 5,130 (Kirklees Observatory, 2013).

There are churches, a community centre, a health centre and a number of shops and pubs. There are some cooperative businesses including the Green Valley grocer and a butchers and locally business is important to many residents, others include the Handmade Bakery, and Edibles, a group of volunteers which sell locally produced food and plants in addition to running permaculture courses (Edibles, 2015). There are some community activities and groups, such as the Moonraking festival, and the Slaithwaite brass band, among others. The Moonraking festival reflects a local story where a group of smugglers were caught retrieving their contraband from the canal. They told the police they were raking the moon out of the Ramsden canal which flows through Slaithwaite and were arrested for being drunk rather than smuggling. The tale is re-enacted at the festival held every year since 1985 and local bands, named Slawisamba bands after the local pronunciation of the village name (“Slawit”), play music while the locals walk around the village with homemade lanterns (Slaithwaite directory, 1997). The festival has become very popular with visitors to the village.

Slaithwaite is part of the Marsden and Slaithwaite Transition Town (MASTT) network. It has a community orchard. A number of residents (Keep Slaithwaite Special Community Group) were campaigning against the construction of an ALDI supermarket. They argued the proposal was for its construction in a conservation area. In addition, it would harm wildlife and would be a threat to local businesses (Slaithwaite.org, 2013).
Linthwaite

Photograph 5.4: View of Linthwaite

Linthwaite is also a semi-rural village built on the slopes of the Colne Valley, situated between Slaithwaite and Huddersfield, approximately four miles west of Huddersfield. It has a very similar history to Huddersfield and Slaithwaite being in the mill area and has similar housing and population as Slaithwaite. One of the mills, the Titanic Mill seen in the photograph, has been converted into apartments and a day spa. The population in 2013 was reported to be 5,290 (Kirklees Observatory, 2013). There are a number of amenities in Linthwaite, including supermarkets, pubs, shops, although there are fewer than in Slaithwaite. In addition, the area around the canal and river in Slaithwaite has undergone improvement and there are picturesque areas for residents and visitors to sit outside cafés and pubs in the centre, which has not been seen as yet in Linthwaite. There are few community groups. One resident comments “it's ever so pretty. It’s all old mills, old houses, and a mixture of new. It’s nestled in the Pennine hills and the views are fantastic” (Doris).
Ilkley is a town in West Yorkshire located approximately twelve miles north of Bradford and seventeen miles north-west of Leeds. Following its reputation for the restorative properties of the water in the area, it became a spa town in the nineteenth century when the Middleton family bought and transformed the small village into the town of Ilkley (Irwin, 2010). It has been a popular place for tourists to visit since then. It became a popular place to live for mill owners as the air was less polluted and following the establishment of the railway system connecting Ilkley to Bradford and Leeds in 1865, the population grew and it became a commuter town (Dixon, 2010). In 2011 there were reported to be 14,809 residents (Office for National Statistics, 2011). There are good amenities typically found in a town, including churches, schools, shops, banks, sports facilities, a library, hotels, and so on. There are a number of local clubs and groups, including, among others, sports groups, a theatre group, art groups, music groups. U3A has a wide membership in Ilkley. The annual literary festival is very popular among residents and tourists and Ilkley hosts an annual flower show.
5.2.3 Rural areas

The three rural villages are all in North Yorkshire situated in the Dales National Park. It was felt that, as differences between villages were not being compared the villages should be similar with regards to location, size and industry. What the villages have in common is that they are all traditional farming communities but, according to Kemplay, (2001) due to a decline in the traditional industries of hill farming which no longer provides an adequate income and quarrying, and the creation of the Yorkshire Dales National Park in 1954, tourism has become the primary industry in the area.

Horton-in-Ribblesdale

Photograph 5.6: View of Horton-in-Ribblesdale

Horton is a rural village in the Yorkshire Dales National Park, in the Craven district of North Yorkshire. The nearest town is Settle, a market town, approximately eight miles south. As well as being a traditional farming community (Horton Local History group, 1984) there were a number of quarries in the area and this used to be its main industry (Simon, 2015). It has now become a popular tourist destination. Following the 1949 National Park and Access to the Countryside Act, in 1954 the Yorkshire Dales became a National Park (Yorkshire Dales National Park Authority, 2014). In addition, The Pennine Way became a National Trail in 1965 stretching from Edale in Derbyshire to Kirk Yetholm in the Scottish borders (National Trails, 2015). It is located between the three peaks Whernside, Ingleborough and Pen-y-
Ghent and is the most common starting and finishing point for hikers. It is the “unofficial headquarters for the Three Peaks Walk” (Simon, 2015), the Pen-y-Ghent café operating a clocking in and out service to ensure the safety of walkers (North Yorkshire Federations of Women’s Institutes, 1991). It is a popular place to stay for those who enjoy other outdoor pursuits, such as caving, fell running, cycling, and those who just enjoy the peacefulness of the countryside (Horton-in-Ribblesdale Parish Council, 2015). There are a number of hotels, places offering bed and breakfast, holiday cottages and a campsite in Horton to accommodate the holiday makers which appears to have contributed to a decrease in permanent residency. In 1984 the population was approximately 550 (Horton Local History group, 1984), falling to 428 in 2011 (Office for National Statistics, 2015). One resident reports that a number of houses have been sold as holiday cottages (Pauline). Horton has a railway station, the Settle to Carlisle trains pass through every two hours. Buses run four times a day to Settle. There are cafés, two pubs, a village shop, a post office, a primary school, and a church. There are some community groups, including a local history group, Women’s Institute, Friends of the Three Peaks. In addition, there is an annual gala and an annual show. The nearest environmental group is the Craven Conservation Group.
Stainforth

Photograph 5.7: View of Stainforth

Stainforth village, along with the even smaller village of Knight Stainforth, form the Stainforth parish. Stainforth is located in the Yorkshire Dales National Park, in the Craven district of North Yorkshire. It is approximately two miles south of Horton-in-Ribblesdale and six miles north of Settle. Again, the village was traditionally a farming community with industry also in quarrying, lime burning, cloth dyeing and corn and cotton mills (Kemplay, 2001). One resident interviewed in Study 4 describes it as “very pretty…. Lots of waterfalls and hills and sheep” (Daniela) As well as farming today the main industry is tourism. In 2011 there were reported to be 231 residents (Office for National Statistics, 2015). The population appears to have remained quite constant since 1900 (A vision of Britain through time, 2015). Another resident reports there to be “a lot of traditional stone Yorkshire houses” (Joyce). There are three to four buses per day, except in the evenings and on Sundays. The village has a caravan site, holiday cottages, and a hotel (and pub). Facilities include a church, a village hall and a garage but the village no longer has a school as it was closed in 1984, other closures include the shop, butchers, and the post office (North Yorkshire Federation of Women’s Institutes, 1991). Despite the size and lack of facilities, there are a number of
community activities and groups. There is a history group, an environmental group, which organises the upkeep of the village and supporting wildlife through projects such as litter picking and a road verged project where wildflowers are planted in the grass verges. In addition, there is a Good Neighbours network, Pilates classes, a youth club, coffee mornings, neighbourhood watch, and a lunch club (Stainforth, 2015).

**Kettlewell**

Photograph 5.8: View of Kettlewell

Kettlewell is also in the Yorkshire Dales National Park, in Upper Wharfdale, North Yorkshire. The nearest town is Grassington, a market town, approximately seven miles south. It has a smaller population than Horton. In 2011 there were reported to be 322 residents in the Parish of Kettlewell and Starbotton (one fewer than the 2001 census) (Office for National Statistics, 2015). Starbotton is a very small village approximately two miles north of Kettlewell with approximately 50 residents in 1991 (North Yorkshire Federation of Women’s Institutes, 1991). Kettlewell used to have a larger population. In the 1801 census there were reported to be 634 residents though this fell with the closure of the lead mine in 1868 (Hare, 2003) and appears to have remained at approximately 300 since the 1930s (The National Archives, 2015). Because of its beautiful scenery it is a popular tourist destination and
becomes quite busy over the summer months. While still a strong farming community (North Yorkshire Federation of Women’s Institutes, 1991) there are two hotels, a caravan site, a number of bed and breakfast establishments, and approximately fifteen holiday cottages (Hare, 2003) so tourism has become a major concern in the village. There are five buses daily to Grassington and Kettlewell does not have a train station. A range of facilities are available, there is a village shop, a gift shop, an outdoor clothing and equipment shop, a post office, a garage, a tea room, cafés, two pubs, a village hall, a primary school and a church. There are a number of community activities, perhaps the most important being the scarecrow festival which occurs every August. The festival began as a fundraising event for the local school and it has grown since then. The whole community get involved by fashioning scarecrows which are placed all around the village and it is a popular tourist attraction where visitors are invited to take part in the trail around the village where riddles need to be solved in order to guess the mystery word (Kettlewell Scarecrow Festival, 2015). In 2014 Kettlewell began to hold a Mayfest, a festival in order increase community cohesion among residents of Kettlewell as well as the wider Wharfdale community and in order to raise funds to create a community garden in Kettlewell (Kettlewell Mayfest, 2015). Kettlewell also has a horticultural society which hosts an annual show (Kettlewell with Starbotton Parish Council Website, 2015).

In 2011 the primary school was threatened with closure as fewer than thirty students were attending. However, this effort was thwarted by a campaign by Wharfdale residents (Wainwright, 2011) and the school remains open today. Also in 2011 a group of residents (Kettlewell Hydro Electric Light Limited (HELL)) campaigned for the construction of a dam which would enable the production of hydroelectric power for the village and also to sell to the National Grid. There had previously been a dam which provided the village with power until the introduction of the National Grid in the 1960s (Hydro-electric bid, 2011).

5.3 Method

5.3.1 Participants

Participants were sampled from neighbourhoods in urban areas, semi-rural areas, and rural villages in North and West Yorkshire. All participants reported being 18 years of age or older. Using G*Power, it was concluded that a required total sample of 160 was required in order to achieve sufficient power. (Faul et al., 2009). The final sample included 294 participants. Table 4.1 presents the sample numbers by gender and age.
Table 5.1: Sample demographics: gender and age

<table>
<thead>
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<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>61.2</td>
</tr>
<tr>
<td>Male</td>
<td>101</td>
<td>34.4</td>
</tr>
<tr>
<td>Missing</td>
<td>13</td>
<td>4.4</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-30</td>
<td>14</td>
<td>4.8</td>
</tr>
<tr>
<td>31-45</td>
<td>71</td>
<td>24.1</td>
</tr>
<tr>
<td>46-55</td>
<td>61</td>
<td>20.7</td>
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<tr>
<td>56-65</td>
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<td>27.6</td>
</tr>
<tr>
<td>Type</td>
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<td></td>
</tr>
<tr>
<td>Urban</td>
<td>93</td>
<td>31.6</td>
</tr>
<tr>
<td>Semi-rural</td>
<td>106</td>
<td>36.1</td>
</tr>
<tr>
<td>Rural</td>
<td>95</td>
<td>32.3</td>
</tr>
</tbody>
</table>

The sample was compared with the populations of North and West Yorkshire with regards to gender and age. Although broadly representative of the population, the sample has a slightly higher percentage of women in both North and West Yorkshire and in both areas younger participants are under-represented while older participants are over-represented. Therefore, it is possible to generalise these findings to residents of North and West Yorkshire.

5.3.2 Risk Assessment and Ethical Approval

Favourable ethical opinion for the study was given by the University of Surrey Ethics Committee. The British Psychological Society’s ethical guidelines were followed throughout the study. There was no anticipated risk of psychological harm or distress to participants being that the content was not sensitive. In addition, participants were advised that they could withdraw from participating at any time and if they chose to do so, the information would not be stored or used. They were advised that they could leave any questions they did not want to
answer. Finally, participants were assured that the information which they provided was anonymous and would be treated confidentially.

5.3.3 Procedure

Questionnaire data were collected during January and February 2015. A pilot study was firstly carried out in each of the environments in order to identify any issues, such as, confusing or poorly worded questions. The only issue was the length of the questionnaire for two participants. All items were retained as the length was acceptable to the other participants.

Residences were chosen from each of the four places by every nth home in selected roads. In the rural villages, because of the small populations, a questionnaire was delivered to all houses, excluding those which were for sale or which appeared to be empty or holiday cottages. In addition, local groups were contacted and asked if they would post an online version of the questionnaire on their website and invite residents to respond. After collection, the data were quickly scanned to ensure no participants had completed both an online and paper copy.

An information sheet outlining the study and an invitation to participate in the questionnaire was be delivered to the sampled homes advising residents when the researcher would visit, how long it would take to complete the questionnaire, and provide contact details. Residents were advised that they need not participate if they did not wish to, that they may leave any questions they did not want to answer blank, and that they may cease participation in the questionnaire at any stage during completion should they wish. However, it was pointed out that, as the questionnaires are anonymous, once the questionnaire has been handed back to the researcher it would not be possible to remove the data after that time.

The homes were then visited on the specified day and residents asked if they wished to participate. If so, a questionnaire was left for them to complete. Participants were also reminded when the questionnaire would be collected. In addition, participants were asked to complete and sign a Consent form when given a questionnaire. Where there was no reply a second covering letter, consent form and questionnaire were posted through the letter box.

A sample of three hundred was initially selected. However, following initial data screening six cases were excluded due to the quantity of missing data. One case was found to be an outlier as the overall attachment score was very low. After consideration the case was
Firstly, examining differences in attachment is the focus of the study. In addition, the case only slightly affected the mean and standard deviation, there was no change to the median. Therefore, bias to any test statistic was minimal.

5.3.4 Instrument

The questionnaire consisted of:

- The comprehensive neighbourhood attachment measure
- Social cohesion scale
- A personal environmental action measure
- A community environmental action scale
- A participation in group membership scale
- Socio-demographics

5.3.4.1 The comprehensive neighbourhood attachment measure

The comprehensive neighbourhood attachment measure used was that created and discussed in Chapter Three.

5.3.4.2 Social cohesion scale

Neighbourhood social cohesion and trust scale (Sampson et al., 1997)

Sampson et al. (1997) define social cohesion as “the degree of connectedness and solidarity that exists among people living in defined geographic boundaries”, according to Echeverría et al. (2008, p.854). According to Echeverría et al. (2008, p.854), Sampson et al. maintain that to achieve well-being in the neighbourhood social ties are not adequate. In neighbourhoods where higher levels of social cohesion is demonstrated reflect “the collective capacity of residents to translate social ties into specific goals for the common good”. Thus it should follow that in neighbourhoods with higher levels of social cohesion will also demonstrate greater levels of community participation in sustainable behaviours with the intention of protecting the neighbourhood and community projects put in place to improve the neighbourhood.

This social cohesion measure was selected because it is concerned specifically with the occurrence of social cohesion in neighbourhoods. The scale has been validated by Echeverría et al. (2004) who used intraclass correlation coefficient (ICC) to explore variability of data in
order to gauge reliability. They found a reliability level of .90 on a scale between 0 and 1, where 1 indicates perfect reliability (Rankin & Stokes, 1998).

Participants were asked to indicate agreement on a seven point Likert scale rather than a five point scale that Sampson et al. (1997) used because participants are able to answer more precisely on a larger scale (Sapsford, 2007) and for correspondence with the measurement of the other items in the questionnaire in order to avoid confusion for participants. The overall mean of the five items was used to give a perceived social cohesion score.

5.3.4.3 Personal environmental action engagement measure

The sustainable behaviour scale introduced by Whitmarsh and O’Neill (2010) was used. The scale measures behaviour rather than attitudes. This study is concerned with what sustainable behaviours individuals engage in and therefore the scale of Whitmarsh and O’Neill (2010) was employed. Studies have demonstrated there are various barriers between attitudes and behaviour with regards to carrying out sustainable behaviour (e.g., Kollmus & Agyeman, 2002; Gifford, 2011; Alwitt and Pitts, 1996; Terry et al, 1999). The measure includes sustainable behaviours included in the four behavioural domains identified by DEFRA (2008), namely, domestic energy/water use, waste behaviour, transport, and eco-friendly shopping. Whitmarsh and O’Neill (2010) found the scale had a reliability score of .7 using Cronbach’s alpha. Whitmarsh and O’Neill (2010) included two further items into the measure concerned with driving and flying behaviours. In the present study these are items 28 and 44. In the present study ‘Not applicable’ has been included as a response option, the reason being that some items may not be relevant, for example, ‘How often do you drive economically?’ A participant indicating that they never drive economically may respond in this way because they never drive, rather than the implication that they drive but not economically, which would lead to misinterpretation of the data. Furthermore, in the present study for items 45-51, participants must only indicate whether they have carried out the behaviour or not rather than indicating when as the time when the action occurred is not pertinent here, only whether or not it happened. These six items are concerned with one off water and energy saving behaviours, for example, purchasing insulation products, solar panels, and so on. The items were then combined and participants scored on a scale of zero to six depending on how many behaviours they report they have done.
5.3.4.4 Community environmental action measure

Eight activities which support the local community and environment, for example, a local market or neighbourhood/village improvement project, were included to identify to what extent participants participate in activities which directly support their neighbourhood or village. The option to include any other community activity was also included. For analysis these were combined to give an overall score.

5.3.4.5 Group membership

Six types of groups were presented as well as the option to name other types of groups of which they were members. These were originally combined to form a continuous scaled item. However, finding the result to be non-normally distributed, as many participants were not members of any groups, these were then transformed into binary data representing group participation or no group participation.

5.3.4.6 Demographics

As well as length of residence, which is commonly found to be important for attachment (Lewicka, 2011b) other demographics which have previously been found to have mixed results in their significance to neighbourhood and place attachment were included; gender, age, ethnicity, qualifications, employment, income, home ownership, amount of time spent at home, and perceived neighbourhood improvement.

Ethnicity, qualifications, income, home ownership and time spent at home were not included in analysis. Very few questionnaires were returned from participants from ethnic minorities. 97.6% of the sample reported being White: English/ Welsh/ Scottish/ Northern Irish/ British Irish, Irish, Gypsy or Irish traveller. Missing information for qualifications, income, home ownership and time spent at home was very high and so these variables were excluded from analysis. This is discussed in greater depth in the Discussion.

The questionnaire can be found in Appendix 3.

5.3.5 Analysis

In order to identify whether there is a significant difference between residential place attachment in urban, semi-rural and rural environments, a one way between subjects ANOVA was undertaken. Multiple regression analyses were then carried out to identify the relationship between social cohesion, group membership, perceived neighbourhood
improvement, length of residence, age gender, employment, and residential place attachment in each of the environments. Finally, partial correlations were carried out to explore the relationships between residential place attachment, social cohesion, community environmental actions and personal environmental actions.

5.4 Results

5.4.1 Contrasting neighbourhood attachment in urban, semi-rural and rural residential environments

To address the first aim which was to identify whether there is a significant difference between neighbourhood attachment in urban, semi-rural and rural environments, a one way between subjects ANOVA was carried out. The parametric assumptions of the test were met; the data were normally distributed, the issue of the outlier noted previously was addressed, the sample is of adequate size (Fife-Schaw, 2014), and the assumption of homogeneity had been met. There was a significant effect of type of place on attachment, $F(2,291) = 12.97$, $p<.001$, $r = 0.29$ (medium effect size).

Post hoc tests (Tukey) revealed that residential place attachment was significantly higher for rural residents ($M = 5.32, SD = 0.92$) ($p<.001$) than for urban residents ($M = 4.61, SD = 0.94$) or semi-urban residents ($M = 4.79, SD = 1.10$) ($p=.001$).

There was no significant difference between attachment levels for urban and semi-rural residents ($p=.378$). Tukey was selected as the appropriate post hoc test as the groups were of similar size, although the results for the Games Howell test, which is appropriate where group sizes differ, was also run with very similar results.

5.4.2 Exploring relationships between attachment in the three types of environment, social cohesion, group membership, perceived neighbourhood improvement, length of residence, age, gender and employment

In order to compare the predictors of residential place attachment in each type of environment the initial data set was split into three sets, urban, semi-rural and rural. In order to estimate the effect of the predictor variables on residential attachment in each environment, multiple regression analyses were carried out on each of the data sets. Multiple regressions were considered to be the appropriate test they enable the researcher to identify the relationship between each predictor variable and neighbourhood attachment while controlling for other
key variables. It also reduces the probability of making a Type 1 error, identifying an effect in the population when there is not really an effect by carrying out many statistical tests on the same data set (Field, 2013).

The data in each data set met the assumptions of independent errors, linearity, homoscedasticity, multivariate normality and no multicollinearity (Field, 2013). Standardized residuals and Cook’s distance scores were all within the acceptable limits confirming no cases had an undue influence on the regression equation parameters (Fife-Schaw, 2014). Group membership was transformed into binary data where participants were recorded as either participating or not participating in groups as data were not normally distributed.

A linear multiple regression analysis using the ENTER method was carried out to assess the importance of gender, age, length of residence, employment, perceived neighbourhood improvement, local group membership and social cohesion to residential place attachment. Although education, income, home ownership, ethnicity and time spent at home were all included in the questionnaire, they were not included in the analysis. Reasons for this decision are explained in the Discussion.

5.4.2.1 Urban residential place attachment

The overall model was statistically significant, $F(7, 79) = 10.04 p < .001$, $R^2 = .47$, $Adj. R^2 = .42$ indicating that in the urban neighbourhood 42% of the variability in residential place attachment is predicted by the independent variables in Table 5.2.

Social cohesion has the strongest relationship to attachment, although length of residence is also strongly positively related to attachment. Age and group membership have a weaker positive significant relationship to attachment.
Table 5.2: Multiple regression model using urban data set

<table>
<thead>
<tr>
<th>Variable</th>
<th>$b$</th>
<th>SE</th>
<th>$B$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.96</td>
<td>0.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social cohesion</td>
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<td>0.10</td>
<td>.55</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Group membership</td>
<td>0.14</td>
<td>0.07</td>
<td>.18</td>
<td>.040</td>
</tr>
<tr>
<td>Neighbourhood improvement</td>
<td>0.10</td>
<td>0.09</td>
<td>.10</td>
<td>.290</td>
</tr>
<tr>
<td>Length of residence</td>
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<td>0.01</td>
<td>.37</td>
<td>.001</td>
</tr>
<tr>
<td>Age</td>
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<td>-.27</td>
<td>.027</td>
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<tr>
<td>Gender</td>
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<td>.13</td>
<td>.157</td>
</tr>
<tr>
<td>Employment</td>
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<td>0.07</td>
<td>.11</td>
<td>.304</td>
</tr>
</tbody>
</table>

$N = 87$

5.4.2.2 Semi-rural residential place attachment

The overall model was statistically significant, $F (7, 85) = 24.42, p < .001$, $R^2 = .67$, Adjusted $R^2 = .64$ indicating that in the semi-rural neighbourhood 64% of the variability in residential place attachment is predicted by the independent variables in Table 5.3.

Again, social cohesion has the strongest relationship to attachment followed by length of residence. Group membership and age have a weaker significant relationship to attachment.

Table 5.3: Multiple regression model using semi-rural data set

<table>
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</tr>
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<tr>
<td>Social cohesion</td>
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<td>0.08</td>
<td>.61</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Group membership</td>
<td>0.19</td>
<td>0.08</td>
<td>.16</td>
<td>.022</td>
</tr>
<tr>
<td>Neighbourhood improvement</td>
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<td>.450</td>
</tr>
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<td>Length of residence</td>
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<td>&lt;.001</td>
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<td>Age</td>
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<td>-.17</td>
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<td>Gender</td>
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<td>.13</td>
<td>.102</td>
</tr>
</tbody>
</table>

$N = 93$
5.4.2.3 Rural residential place attachment

The overall model was statistically significant, $F (7, 78) = 6.01 \ p < .001, \ R^2 = .35, \ Adj. \ R^2 = .29$ indicating that in the rural residential environment 29% of the variability in residential place attachment is predicted by the independent variables in Table 5.4.

Only social cohesion is significantly related to attachment.

Table 5.4: Multiple regression model using rural data set

<table>
<thead>
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<td>&lt;.001</td>
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<td>Length of residence</td>
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<tr>
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</tr>
<tr>
<td>Gender</td>
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</tr>
<tr>
<td>Employment</td>
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<td>0.06</td>
<td>.13</td>
<td>.231</td>
</tr>
</tbody>
</table>

$N = 86$

5.4.3 Exploring the relationship between community environmental actions, personal environmental actions, place attachment and social cohesion

In all three environments bivariate correlations demonstrated no significant relationship between community environmental actions and personal environmental actions. Thus carrying out one type of environmental action does not correspond with carrying out the other type of environmental action and therefore no further analysis was undertaken. In the rural environment the bivariate correlation between community environmental actions and place attachment was $r (77) = .401, \ p < .001$ and the bivariate correlation between community environmental actions and social cohesion was $r (77) = .328, \ p = .003$. A partial correlation computed between community environmental actions and place attachment controlling for social cohesion found $r (76) = .271, \ p = .016$. The results demonstrate that place attachment explains some of the variation in participation in community environmental actions, but that this relationship is moderated by social cohesion, that is to say, the presence of social cohesion is also associated with higher participation in community environmental actions.
5.5 Discussion

5.5.1 Exploring residential place attachment in urban, semi-rural and rural environments

The results of the ANOVA and Tukey post hoc test demonstrate that residential place attachment in rural residential environments is significantly higher than in urban and semi-rural environments. The residential attachment measure was created using responses from a sample of 98.2% urban residents (Study 2, Chapter Three) and therefore, in the present study, it was initially expected that attachment levels would have been higher among urban residents being that the measure tapped reasons for attachment in urban residents primarily. What the results do indicate is that there is considerable overlap between reasons for attachment in urban and rural residential environments. Affective feelings, efficacy and control, social ties, feelings of safety and memories and experience are concluded to also be important for attachment in both urban and rural residential environments. No significant difference was found between the strength of attachment in urban and semi-rural residential environments. While semi-rural places have easy access to the countryside in common with rural environments and may have similar aesthetic qualities, they probably have other factors such as the ease of getting from place to place, the range of amenities and community activities and groups, higher populations more in common with urban environments. This may account for the lack of difference between urban and semi-rural residential environments. With regards to demographic variables, age, gender and employment are not significantly related to attachment in any environment.

A number of demographic variables were omitted from analysis because, though participants completed the questionnaire, some failed to complete all of the demographic questions. Ethnicity was excluded due to very low response rate of ethnic minority residents. A high proportion of White British responses were expected from the rural villages and semi-rural neighbourhoods. According to the Office for National Statistics (2013), in 2011 in the combined parishes of Kettlewell, Horton in Ribblesdale and Stainforth 97.6% of residents are reported as being White: English/ Welsh/ Scottish/ Northern Irish/ British Irish, Irish, Gypsy or Irish traveller. Similarly, in Ilkley, Slaithwaite and Linthwaite, the combined percentage is 95.13%. However, the ethnic minority population is over 27% in the urban areas of Roundhay and Dalton and therefore, a higher response rate was expected. Systematic literature reviews present mixed findings as to whether response rates differ between ethnic
groups, for example, Sykes et al. (2010) found response rates were similar across ethnicities. Studies from Canada, the USA, Australia, New Zealand and the UK were included in the review. Arguably, a more relevant study being that it only included studies carried out in the UK is that of Sheldon et al. (2007) who report that response rates for NHS questionnaires are low amongst Black and minority ethnic groups and amongst young people.

Qualifications and income may have had a low response rate due to participants finding them too personal. Participants may not have wanted to calculate the time spent at home over the week. Of those who did complete these questions, the relationship of these variables with attachment was initially analysed and these three variables were found to have no significant relationship to attachment and therefore it was decided to exclude them from analysis rather than have a low sample size in the regression analyses by including the variables. Home ownership was found to be non-significant and thus excluded. Satisfaction was not included as a variable as aspects of satisfaction were incorporated into the residential place attachment measure.

The multiple regression models show that the indicator variables included in the study predict the greatest percentage of variability in residential place attachment in semi-rural residential environments (64%). For urban environments this drops to 42% and is lower still in the rural environment (29%). These results indicate that further variables are responsible for the occurrence and development of residential place attachment in all of the types of environment.

Social cohesion has the strongest relationship with attachment in all three types of environment suggesting that the social aspect and feelings of community of living in neighbourhoods and villages is extremely important to residents. That participants feel their neighbourhood is close-knit, that people get on well and are supportive and share common values is important for attachment according to the results of this study. This finding is not surprising as social ties were found to be a factor in the residential attachment model.

Length of residence was found to be important in urban and semi-rural residential environments only, suggesting residents become attached in villages more quickly. This may be because the development of social relationships is less easy in urban areas, and there is a greater degree of anomie (LeGates & Stout, 2011). Moreover, the development of social relationships may be regarded as less important than other factors, such as aesthetic qualities, or peaceful environment, for instance. Likewise, social distances may be smaller in rural
settings, in other words, there is less dissimilarity between residents than in urban areas. Familiarity may also play a role. It is probably easier to become familiar with a small village than a neighbourhood in a busy suburb as the pace of life is slower. Both physical changes in the environment take place more slowly and there is generally greater residential stability. The finding of Korpela et al. (2001), that natural places are the favourite type of place for the majority of people, might help explain this. New residents may move to rural environments because it is a rural, natural place and this is what instigates attachment rather becoming attached over time, due more to non-physical aspects about the place, such as social ties, feelings of safety and so on.

Age was found to be positively significantly related to residential place attachment in the urban and semi-rural residential areas but not the rural residential areas. As discussed in 2.5.2.9, in the studies included in the systematic review age is one of the most commonly included socio-demographic variables. Ten of the 23 studies which included age found it predicted attachment. One explanation for such inconsistent findings may be due the type of residential areas in which respondents live. As demonstrated here, age is not significantly related to attachment in rural residential place attachment. This being said, there are far fewer studies exploring place attachment in rural areas in the systematic review suggesting there are other reasons why age is significant in only ten of the 23 studies.

Group membership was also found to have a positive significant relationship with residential place attachment in the urban and semi-rural residential areas but not the rural residential areas. Being part of a social group may be more important for attachment in more urban areas as, being so much more highly populated than rural areas, it is more difficult to identify with other residents and therefore residents may identify with a group or groups within the residential area. In comparison, because rural villages have far fewer residents, villagers may identify as being part of the village, as they know most, if not all, other residents and feel part of the village group.

### 5.5.2 Exploring the relationship between residential place attachment, social cohesion, community environmental actions and personal environmental actions

The results here do not support those of Guárdia and Pol (2002) and Uzzell et al., (2002) in that participation in personal environmental actions was not significantly related to attachment in the three types of environment. Guárdia and Pol (2002) and Uzzell et al., (2002) were concerned with social cohesion, identity and sustainable behaviours. These
findings suggest that while social cohesion is important for neighbourhood attachment and identity, the relationship between social cohesion and identity is more pertinent for the propensity to act in a sustainable manner than the relationship between social cohesion, attachment and sustainable behaviour participation. It may be that attachment and social cohesion are precursors of identity and that identity, rather than attachment, is important for the adoption of environmental attitudes and behaviours. This would certainly help explain the mixed findings from the environmental attitudes research where changes in landscape due to environmental mitigation constructions are met with mixed responses and which, according to Devine-Wright (2011) when supported, contribute to enhancing the distinctiveness of the area, an important factor in the development of identity (Twigger-Ross & Uzzell, 1996).

Community environmental actions were found to be related to attachment in rural environments only. Included here are activities which improve the local environment, either the environment, the community or industry, such as, local green spaces, skillshare groups, or community-owned shops. After exploring the possible various relationships between residential place attachment, social cohesion, community environmental actions and personal environmental actions through bivariate and partial correlations presented in Figure 4.1, the only significant relationship was that social cohesion was found to moderate the relationship between residential place attachment and community environmental actions in rural environments (Figure 5.1).

Figure 5.1: Relationship between residential place attachment, social cohesion and community environmental actions in rural environments

There are two possible explanations for these findings. Firstly, the results suggest that in rural residential environments higher levels of attachment are related to increased likelihood of

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3 Skillshare groups – Community groups hold workshops where community members teach skills, pottery making or gardening for example, aimed at bringing people in the community together and moving the community towards self-reliance (Hopkins, 2008).
wanting to support and protect the local environment and community. Community environmental actions were not related to attachment in the urban and semi-rural residential environments. This supports the findings of Hidalgo et al. (2015) to a certain extent. They report no significant relationship between neighbourhood attachment and neighbourhood maintenance behaviours. Although they did not explore the relationship in rural residential environments. Hidalgo et al. (2015) suggest two possible reasons for their finding. Firstly, they point out that higher attachment is reported in neighbourhoods with lower socio-economic status. Neighbourhoods of lower socio-economic status were more poorly maintained than those with higher socio-economic status and this may explain why higher attachment is not tied to better maintenance. Secondly, they argue that items in the neighbourhood maintenance measure which they employed (Bonaiuto et al., 1999), such as socio-economic class and behaviour of neighbours, indicates the significance of social standards in the neighbourhood. They conclude that social aspects of the neighbourhood are important for neighbourhood maintenance. Hidalgo et al. (2015) focused only on the urban environment. Perhaps if they had also carried out their study in a more rural residential environment, the results may have demonstrated a significant relationship.

However, if these findings are considered in relation to the non-significant personal environmental action results, responsibility might be a further explanation. Rural residents may feel more responsible for their neighbourhoods and villages than urban residents. Berenguer et al. (2005) found that urban residents have more environmental concern than rural residents. However, rural residents report a moral obligation to behave in a sustainable manner more frequently than urban residents which may explain why rural residents are more likely to participate in community and local environment improvement activities. In addition, Clayton et al. (2015) argue that direct experience of environmental issues is more highly related to behaviours than non-direct experience of issues may explain why sustainable behaviours aimed at augmenting the local environment are carried out but not general sustainable behaviours. This argument will be picked up again and developed in the Discussion section of Chapter Five in consideration of the qualitative findings of Study 4.

5.6 Conclusion

This chapter addressed the second, third and fourth research questions; considering differences in place attachment in urban, semi-rural and rural residential environments, exploring the relationship between social cohesion and residential place attachment and how
residential place attachment contributes to community and personal environmental actions. When broken down into specific aims it addressed the fourth and fifth aims, that is to say, Study 3 contrasted residential place attachment in urban, semi-rural and rural residential environments and examined the relationships between attachment in the three places, social cohesion, community environmental actions and personal environmental actions.

The results demonstrate residential place attachment to be significantly higher for rural residents than urban or semi-urban residents. The results also indicate that different independent variables are related to attachment in the different environments. This knowledge, along with the finding that the percentage of variability explained by the variables was incongruent between the different environments, is evidence that other variables, not included here, are salient for the occurrence and development of residential place attachment.

Study 4 goes hand in hand with Study 3. A limitation of Study 3 is that it uses a quantitative method which is restricted to only exploring differences in attachment according to what is included in the measure. Study 4 is a qualitative study intended to address the final aims of the thesis in more detail, to consider why there are differences in attachment in the different types of environment and attempt to uncover what variables are important for the occurrence and development of residential place attachment in the different environments. In addition, Study 4 considers how residents report their feelings of attachment for their neighbourhood have changed over the time that they have lived there.

Through interviews with residents in urban, semi-rural and rural residential environments, Study 4 explores differences in reasons for attachment in the different residential environments. It also attempts to explain why residential place attachment was found in Study 3 to be significantly related to behaviours which have an impact on the local environment in rural environments but not in urban or semi-rural environments and also why attachment was not related to general sustainable behaviours in any environment.
Chapter Six

Study 4:

Qualitative analysis of residential place attachment in urban, semi-rural and rural residential environments

6.1 Study Introduction

Study 3 was a quantitative study which enabled testing the degree to which people are attached to place, how this is effected by type of environment and social cohesion, and whether or not it has an effect on community and personal environmental actions. The purpose of this chapter is to explore why people are attached to their residential environments beyond the variables included in the questionnaire. Study 4 complements Study 3 by exploring, through semi-structured interviews, why residents are attached to their environment, why there are differences in attachment in the different environments and what variables are importance for the occurrence and development of attachment in order to identify what has been overlooked in the questionnaire. It also considers an aspect of residential place attachment which it was impossible to do through the questionnaire, that is, identify how the importance of variables for the development and maintenance of residential place attachment change over time.

The use of mixed methods in psychology is becoming more common (Cresswell, 2013), even though as long ago as the 1970s, Ittleson et al., (1974) argued that phenomenon should be observed using more than one method. Mixed methods, employing both quantitative and qualitative methods, is the most likely means by which a fuller, more inclusive assessment of people-place relationships can be explored. According to Ittleson et al. (1974, p. 208) because environmental psychologists want to “capture behaviour as it is lived”, they are faced with methodological challenges. Nevertheless, Coyle (2007) advises that rather than making the assumption that employing mixed methods will be superior than using either quantitative or qualitative methods without any further consideration, the research question should determine the method(s).

Epistemology and methods were discussed in section 2.2.5. Here, it is sufficient to add that data collection and methods of analysis are tied to the research question and some methods are not suitable for collecting significant information to address the research goals (Willig,
Willig (2013, p. 22) argues “we can use a questionnaire to establish whether there are significant differences between two groups of people in terms of a particular behaviour or preference and then use semi-structured interviews and/or focus groups to find out why”. In Study 3 a questionnaire established that there were differences in attachment in rural residential environments which was significantly higher than in urban and semi-rural residential environments. It also indicated differences in the importance of the variables included in the questionnaire for attachment in each of the environments. The current study employs a qualitative method in order to explore further the differences indicated in the survey, to identify why these differences exist.

Social aspects of place have been demonstrated to be influential in the research. Acuña-Rivera et al. (2014) found when assessing risk in a place, people make judgements about the people that live in the place over and above the place itself and it is these judgements that influence behaviour. The City-Identity-Sustainability network (Pol, 2002) were concerned with the relationship between place-related social identity and propensity to act in a sustainable manner. As part of the City-Identity-Sustainability research, Uzzell et al (2002) found that the relationship between place-related social identity and sustainability in two neighbourhoods was mediated by perceived social cohesion and residents’ satisfaction and place identification.

Study 3 demonstrated strong relationships between residential place attachment and social cohesion in all three environments although no significant relationships were found between residential place attachment and personal environmental actions. In the rural environment residential place attachment was found to be significantly positively related to community environmental actions when mediated by social cohesion. Study 4 explores these findings further. It examines the development of residential place attachment in the different types of residential environments and considers local community environmental actions as well as personal environmental actions in relation to residential place attachment and social cohesion. Study 4 addresses all research questions. Firstly it explores how residential place attachment should be defined and conceptualised, contributing to the systematic review and questionnaire findings reported in Chapters Three and Four. Secondly, it explores the relationship between residential place attachment and community and personal environmental actions, contributing to the findings of Study 3 discussed in Chapter Five.
The specific aims in Study 4 are to:

Contrast the presence of residential place attachment in three different types of residential environments; urban, semi-rural, and rural.

Consider how residential place attachment changes over time in the three environments

Examine the relationships between attachment in the three places, social cohesion, community environmental actions and personal environmental actions.

6.2 Method

6.2.1 Participants

A statement was included in the questionnaire discussed in Chapter Four asking participants whether they would be willing to participate in an interview to discuss their feelings about their neighbourhood/village further. Participants wishing to do so were asked to provide a telephone number or email address. From those who agreed, using the responses from the attachment scale in the questionnaire, an overall mean attachment score was calculated for each participant. Potential participants for Study 4 were then contacted by telephone or email, depending on the contact information they had provided, and a sample of eighteen participants was recruited. This was made up of six participants from each of the three environments. Each environment group was made up of three interviewees with a high level of attachment, according to the questionnaire results, and three with lower levels of attachment. It was originally intended that participants with low levels of attachment would be recruited. However, there were relatively few people with very low attachment scores and four participants who had low scores who were contacted to take part did not reply to the email asking whether they were still willing to participate in the interview. The range of mean scores for each group can be found in Table 6.1. The mean scores in the semi-rural lower attachment group is particularly high in comparison to the other groups.

Table 6.1 is provided for reference to identify which group interviewees belong to. In order to protect anonymity, names have been changed.
Table 6.1: Participant groups and mean residential place attachment scores

<table>
<thead>
<tr>
<th>Urban</th>
<th>High attachment</th>
<th>Lower attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Janet</td>
<td>Emily</td>
</tr>
<tr>
<td></td>
<td>Penny</td>
<td>Oscar</td>
</tr>
<tr>
<td></td>
<td>Rita</td>
<td>Tara</td>
</tr>
<tr>
<td></td>
<td>5.92 to 5.72</td>
<td>3.96 to 2.68</td>
</tr>
<tr>
<td>Semi-rural</td>
<td>Alice</td>
<td>Doris</td>
</tr>
<tr>
<td></td>
<td>Ben</td>
<td>Simon</td>
</tr>
<tr>
<td></td>
<td>Nicholas</td>
<td>Sarah</td>
</tr>
<tr>
<td></td>
<td>6.56 to 5.88</td>
<td>5.04 to 3.88</td>
</tr>
<tr>
<td>Rural</td>
<td>Andrea</td>
<td>Daniela</td>
</tr>
<tr>
<td></td>
<td>Jenny</td>
<td>Joyce</td>
</tr>
<tr>
<td></td>
<td>Pauline</td>
<td>Tony</td>
</tr>
<tr>
<td></td>
<td>6.36 to 5.72</td>
<td>3.96 to 2.92</td>
</tr>
</tbody>
</table>

6.2.2 Risk Assessment and Ethical Approval

Favourable ethical opinion for the study was given by the University of Surrey Ethics Committee. The British Psychological Society’s ethical guidelines were followed throughout the study.

No anticipated risk of psychological harm or distress to participants was anticipated as the research was not of a sensitive nature. However, it was considered that participants might have become distressed during the interview if they began speaking of something of a sensitive nature which, although unlikely, could have potentially developed from speaking about a place they were attached to. This situation did not arise.

Participants were entered into a draw in order to win a £25 shopping voucher. This was declared to the University of Surrey Ethics Committee. With regard to the issue of undue inducement (The Research Ethics Guidebook, 2014) it was argued that firstly, participants were not being paid, and secondly, the quantity is relatively small and therefore was not a great concern. In addition, it was made clear that they were entered regardless of whether they chose not to answer any of the questions or terminate the interview early. The argument was accepted by the committee.
6.2.3 Procedure

After the initial email or telephone call to ask if participants were still willing to participate in an interview, potential participants were contacted again. It was explained that the interview would take place over the phone and the day and time of interview was arranged. All interviewees were over 18 years of age. An information sheet and consent form were sent by email or post to the participants. The information sheet contained an outline of the aims of the study, a statement that the interview would be recorded, that the information provided would be anonymous and that they could choose to terminate the interview at any point and no information they had provided would be used. Participants were informed at the end of the information sheet that if they agreed to participate in an interview they would be entered in a draw to win a £25 shopping voucher. A consent form was also provided which was signed and returned prior to the interview taking place.

Initially it was decided that the interviews would be held either over the telephone or in person depending on participants’ preferences. However, it was subsequently decided that the same process should be used in all cases to keep the procedure as rigorous and consistent as possible. Interviews were planned to be undertaken by the researcher in March and April 2015. While face-to-face interviews are traditionally more common, telephone interviews have become more popular (Burke & Miller, 2001; Opdenakker, 2006) and it was decided that all interviews would be carried out by these means. All of the individuals selected from the previous survey who were contacted had a telephone and therefore the sample was not biased by choosing to carry out the interviews by telephone. Nevertheless, if the study were to be replicated, it might be important to include residents who do not own a telephone in order to identify whether telephone ownership is an indicator of engagement of the social world and local community.

There are strengths and weaknesses to both telephone interviews and face-to-face interviews. Telephone interviews allow interviews to be carried out in a large geographical area cheaply and quickly (Opdenakker, 2006). Interviews carried out in North and West Yorkshire would have been prohibitively expensive and time-consuming (Braun and Clarke, 2013). In addition, the weather is very unpredictable in North Yorkshire during March and April and thus it was considered safer and more reliable to carry out telephone interviews. Additionally, it was felt that the participant may not feel entirely comfortable having a stranger in their home. However, one disadvantage of telephone interviews is that the researcher has no
control over the environment in which the interview takes place. In one interview the participant’s son entered the room and began suggesting topics for the participant to speak about. While this may have been an advantage in that it encouraged the participant to speak of things she had not initially recalled, it may have led her away from what she specifically wanted to talk about. In addition, Opdenakker (2006) points out that social cues are missed, although some cues, such as voice and intonation, can be picked up and he maintains that these cues are sufficient to carry out the interview effectively. Face-to-face interviews have the advantage in that social cues, such as body language are evident. In addition, the researcher can control the environment in which the interview takes place.

The interviews were semi-structured and follow up questions were sometimes asked in order to gain more insight or to focus the conversation. Interviews were recorded using an Olympus digital voice recorder VN-8800PC and were then transcribed by the researcher and stored in the qualitative data analysis computer software tool NVIVO 10. In order to preserve participants’ anonymity, names were changed. The interview schedule can be found in Appendix 4.

6.2.4 Interview Questions

The interview questions were broken into five sections:

6.2.4.1 Present feelings of attachment/non-attachment and reasons

Following an introductory question inviting the interviewees to speak about their neighbourhood or village, questions regarding why the interviewee likes the place, what feelings they have about the place and whether they think they will move away were asked. These questions compliment the attachment measure used in the questionnaire. They were intended to invite the interviewees to specify why they are attached to their neighbourhood, rather than simply agreeing or disagreeing with a list of provided reasons.

6.2.4.2 History in the place and development of feelings about the place

In response to Lewicka’s (2010, p.49) argument that “we know very little about the processes through which people become attached to places”, questions were included inquiring why interviewees moved to their neighbourhood and if and how their feelings had changed over the time that they had lived there in an attempt to identify why people initially become attached to their residential environment and whether reasons for attachment change.
6.2.4.3 Relationships between neighbours, social cohesion and participation in community environmental actions

This set of questions was included to enable elaboration on those included in the questionnaire which explore social cohesion and what community and environmental groups are available in the community and interviewees participation in them.

6.2.4.4 Present engagement in personal environmental actions

Interviewees were asked whether and where they were worried about the effects of climate change, what sustainable behaviours they carry out and why. These questions were aimed at identifying primarily at explaining why interviewees participated in sustainable behaviours and whether the behaviours were linked to only immediate evidence of climate change (Clayton et al., 2015) or whether participants carried out behaviours thinking of the effects further afield.

6.2.4.5 History of engagement in sustainable behaviours (if relevant)

Where interviewees reported that they performed sustainable behaviours they were asked to elaborate a little about why these behaviours developed, the intention being to identify whether participation was linked to neighbourhood attachment.

6.2.5 Analysis

Thematic analysis (Braun and Clarke, 2013) was carried out in order to compare the development and presence of place attachment, social cohesion and sustainable behaviours in the three environments. Thematic analysis allows the identification of patterns and themes in the data and therefore is the most appropriate form of analysis to ascertain the reasons for the development of attachment as well as to pinpoint differences in attachment between the groups. It is also the most appropriate form of analysis to identify patterns in why residents may or may not carry out sustainable behaviour. An advantage of thematic analysis is that it can be applied in a “data-driven, ‘bottom-up’ way” (Braun & Clarke, 2013, p. 178), resulting in themes being identified from the data. This is particularly important in the present in order that further reasons as to why attachment occurs may be discerned beyond those which have already been identified in the published literature. Because this form of analysis does not assume a theoretical or epistemological position, thematic analysis has been criticised by some researchers for “lacking the substance of other… theoretically-driven approaches”, such as grounded theory or interpretative phenomenological analysis. (Braun & Clarke, 2013, p.
However, more recently the fact that thematic analysis is not tied to a theoretical background has been recently seen as an advantage (Braun & Clarke, 2013, p. 180).

In the present study the data were analysed in a bottom-up way. These themes were contrasted with regard to the type of place; urban semi-rural and rural, and contrasted with the findings of the quantitative results in Study 3 as well as the residential place attachment literature, in order to explore similarities and differences between the types of locations and employed methods.

6.3 Results and discussion

The analysis in the first part of this section focuses on the presence and development of residential place attachment in the three different types of residential environments; urban, semi-rural and rural. In addressing this question, the analysis will concentrate on a) why residents are attached to their environment, b) why there are differences in attachment in the different environments, and c) what variables are important for the occurrence and development of attachment.

6.3.1 What residential place attachment means to residents

In order to address why people are attached to their residential areas and the differences in attachment between the different types of environments, participants were asked about their feelings for their neighbourhood and what they liked about living there. Because Hidalgo and Hernández (2001) argue that the main characteristic of attachment theory (Bowlby, 1969, 1982) is the desire to remain close to the object of attachment, and point out that it is implicitly included in many place attachment measures, participants were also asked if they would consider moving away from the neighbourhood. This was a common variable included in the attachment measures in the systematic review (Study 1).

To discover why participants may have lower levels of attachment, by reporting what they did not like about the neighbourhood, they were asked whether they would like to see any changes in the neighbourhood. Although it is acknowledged that residents still may want to change aspects of their neighbourhood even when highly attached to it, it may help explain why some residents have lower attachment than others.

Negative factors about the neighbourhood on a day to day basis are generally ignored by researchers and the research about whether negative feelings reduces attachment is mixed (see section 2.4.1.2). This may be because most studies are concerned with identifying why
people are attached to their area, as is this study. Nevertheless, it is also important to consider what people dislike about their environment to identify how residential place attachment might be increased, particularly for policy makers assessing how to improve neighbourhoods.

Comments regarding the first interview question, where participants were asked to speak about their residential area, were taken into consideration in relation to what attachment means to residents in some instances. When asked to describe the place, residents tended to include negative or indifferent aspects of the place which explain why they might not be as highly attached as they potentially could be to their residential area, whereas asking residents why they are attached, which is how place attachment interviews tend to be conducted (e.g. Amsden et al, 2011; Feldman, 1996), residents may report that they are attached and give reasons why, but because what residents perceive as negative aspects of the place are not addressed, we do not gain insight into what leads to lower attachment levels. As a result, when participants made comments when describing the place which indicated whether they were happy or unhappy with an aspect of the environment, these were also included in the consideration of why participants were attached to their neighbourhood. Comments which included an indication of whether the participant thought it was a positive or negative feature of the environment were included, for example, “there’s a nice park” i.e., it includes a positive adjective. “It’s very near to town” was not as it is not clear whether this is seen as positive or negative.

Physical aspects of the relationship with place, social relationship in the place and aspects regarding everyday life were all mentioned by residents in all environments as reasons for attachment to the neighbourhood. The results provide some insight into what aspect of the people-place relationship have been overlooked in published research so far and indicate what should be explored in future research.

6.3.1.1 Physical aspects of the neighbourhood

Green Spaces

It was expected that green aspects of the environment would be important for attachment in rural places. As well as aesthetical beauty, the natural and agricultural areas are central to the local economy and many residents may depend upon it or upon tourism which has come about because of the villages being located in or near a National Park. But arguably the most significant finding here was that all urban participants mentioned green aspects of their environment, such as parks, or the ease of getting to green areas. Previous research has found
that urban green spaces are important for residents, for example, as a place to socialise (Burgess et al., 1988), for restoration, such as stress reduction (Grahn & Stigsdotter, 2003), and for health and well-being (Lee & Maheswaran, 2011). It would appear that having ‘natural’ environments in close proximity day to day is important for attachment in urban residential environments. For example,

“Just the feeling that we can get out, it’s not the countryside quite, but we can get out into a quiet green space” (Janet)

Few physical factors alone were found to be associated with residential place attachment for urban residents, though green space was the only physical factor which is consistently associated with residential place attachment according to the interview findings. The systematic review results (Chapter Two) demonstrate, paradoxically, that green space is rarely incorporated into quantitative or qualitative studies, particularly in urban residential place attachment studies.

Three semi-rural residents and four rural residents mentioned green space. For urban residents, green aspects of the environment may have been mentioned more frequently than by semi-rural or rural residents because parks and green spaces are seen to be distinctive in contrast to other urban environments. For instance, Rita comments that the park in her neighbourhood is

“Probably the second biggest park in the UK”.

Distinctiveness of the neighbourhood from other neighbourhoods has been associated with higher residential place attachment in the literature in both quantitative and qualitative studies (e.g., Twigger-Ross and Uzzell, 1996; Williams et al., 2010). Although distinctiveness did not load on to any factors of the neighbourhood attachment model (Study 2).

**Aesthetics**

In contrast to the urban interviews, green space and the ease of getting to green parts of the neighbourhood was only directly commented on by three semi-rural residents. The importance of green space was implied, though its importance seems to be encompassed into the aesthetical appearance of the place. The importance of the scenery or that the neighbourhood or village was aesthetically pleasant was commented on by three semi-rural residents and four rural residents but no urban residents.
All rural residents mentioned that their place of residence was a small, rural or farming village. This is a distinctive feature of residential life. Only a small percentage of people in England live in such isolated communities. From the comments of the rural residents the green, natural aspect of the villages is central to reasons for attachment. “Very pretty. It’s in The Yorkshire Dales. Lots of waterfalls and hills and sheep” (Daniela).

Being surrounded by nature and always being able to see it appears to be important. “It’s nice looking out onto the hills…I can still see a bit of snow on the hills at the minute. You know, it’s nice being sort of in touch with nature and not having to really do anything. Just look out of my window” (Tony).

Preferred type of environment

Two urban residents, one semi-rural and two rural residents commented that their neighbourhood or village was a nice place/area to live in. They may be favourably contrasting their neighbourhoods with other places reinforcing that their neighbourhood is distinctive. One semi-rural resident speaks of the peaceful quiet surroundings,

“It’s nice to have space around you. It’s nice and quiet. I wouldn’t want to live anywhere where it was really busy” (Sarah).

Feldman (1990) found that as residents become increasingly more mobile and tend to change residence places, in order to preserve a sense of continuity, residents develop a sense of “settlement identity” which she argues refers to “the development of psychological bonds with types of settlements” (p.183).

Jenny explained her rural residential place attachment in relation to the type of person she is.

“If I was a city bod and wanted night life and museums and all the rest of it then I would be a little bit out of, I’d be out of luck up here really. I like walking my dog along the river and you know just sort of watching the world go by and the changing scenery and it’s just beautiful, absolutely beautiful”.

Twigger-Ross and Uzzell (1996) found that attached residents were more likely than unattached residents to perceive themselves as the type of person congruent with where they live, that is, ‘a city person’. Twigger-Ross and Uzzell (1996) argue that being a ‘city’, ‘town’ or ‘country’ person is associated with a lifestyle which is perceived to be distinctive from the other types of residential environments.
History and Heritage

History and heritage could be included in either physical or social aspects of the environment as there is overlap. It was eventually included here as it is the buildings and physical space, or the architectural heritage, which contributes to the history of the people. The historical style as well as the history of the buildings, the architectural heritage, contribute to a collective memory for residents are important to residents in rural and semi-rural places. This appears to be salient for attachment for those who mention it. Nicholas comments of his semi-rural neighbourhood,

“I like the vernacular style of the houses. I like the fact that the mills are still here in the main”.

The traditional style of the rural village is important for Jenny. She reports,

“The houses are all very, they’re all Yorkshire stone and there’s nothing high rise or fancy about any of it. It’s all very, very much still a proper Dales village”.

Jenny’s comment regarding “high rise and fancy” buildings suggests she perceives where she lives as distinct from more urban areas. Mentioning the Yorkshire stone is drawing attention to the traditional, historical, aspects of the village.

The heritage of the area appears to be important for why Nicholas is attached to his neighbourhood. The mills were still functioning when Nicholas first moved to the area. He explains

“The history of the mills is an important aspect of the history of Slaithwaite and Linthwaite. The majority of the houses are those which were lived in by mill workers and owners”

“The whole of the Colne Valley used to be a very dark, industrial, smoky area when the textile area was still working in the seventies and eighties and that led to a lot of air pollution which also meant that you actually got quite a lot of rain and cloud cover. So a micro-climate. Since the industry’s gone, it’s meant that the places are actually now perceived as being quite attractive places to live in a way that they weren’t when I first came here. So I think it’s starting to get a different population as well”.

Two main observations come from Nicholas’s comments. Firstly, there appears to be a divide between residents who lived there when the area used to have the mill industry and those who moved afterwards. This observation was also noted by Twigger-Ross and Uzzell (1996) after
the redevelopment of the London Docklands. Residents who had lived there prior to redevelopment considered themselves distinct from newer residents as they had seen the changes take place. This was found to be important for local identification.

Secondly, collective memories appear to be important for longer term residents. This may be tied to group distinctiveness and identity. The longer term residents have the memories of life with the mills and thus the historical buildings have direct significance for these residents.

Until now, the relationship between knowledge of the history and heritage of the area and residential place attachment has not been explored in depth. However, Anguelovski (2013) found the rural residents in her study reported feeling attached to the traditions and architectural heritage which, in turn, is linked to identity. Although Lewicka (2008) was concerned with city place attachment rather than residential place attachment which is of interest here, her results indicated a relationship between increased knowledge of the history of the cities of Lviv in Ukraine and Wroclaw in Poland and attachment to the cities and thus it is worth acknowledging here. Lewicka suggests that it provides a sense of continuity for residents. In addition, knowledge of the history of the place is important for a collective memory among residents for knowledge and understanding of the place and even work carried out in the place (Lewicka, 2008; Rebanks, 2015). Uzzell (1996) investigated whether visiting a museum contributes to a sense of place identity. He concluded that heritage regarding the history of people and activities in the place was linked to a sense of identity with the place (Uzzell, 1996).

In their descriptions, of the semi-rural group only highly attached group members spoke of the history or heritage of the neighbourhood or town. Length of residence appears to have no influence on interest in the heritage of the area. Those who argue history and heritage to be important include residents who had been there a relatively long period of time and residents who were quite new to the neighbourhood. Those who demonstrated high attachment in the questionnaire and spoke of the history of her neighbourhood included Ben, Nicholas and Alice who had been residents in their neighbourhoods for 34, 33 and 2 years respectively and those who demonstrated low attachment included Sarah, Simon and Doris who had lived in their neighbourhoods for 40, 39 and 3 years. Thus, it was concluded that the history of the neighbourhood appears to be important for the highly attached semi-rural residents.

Historical buildings and heritage are not commented on by urban residents. As a result, the history and heritage of the neighbourhood will not form part of residents’ identity with the
place. With considerably more redevelopment that takes place in urban environments, it may be that urban areas have fewer neighbourhoods where residents can draw on its history and heritage to form such salient collective memories. Heritage is an important aspect of life in Slaithwaite and Linthwaite which possibly explains why heritage was mentioned in semi-rural environments only. Doris explains of Linthwaite

“There’s loads of history here and the Luddites history and everything. There is a museum in Golcar. Colne Valley museum which, you know, gives the history. But it’s not well known. It’s only known to the locals and really, why can’t the rest of Britain know about it? Why can’t the rest of the world know about it you know? The Luddites is what we’ve given to the rest of the world”.

Huddersfield and the surrounding villages were greatly involved in the Luddite movement at the beginning of the nineteenth century which occurred in West Yorkshire, Lancashire and Nottinghamshire (Greenleaf and Hargreaves, 1986). “The Luddites are a part of the identity of this part of the west Riding of Yorkshire” Rowlinson (2012, p.ix). The Luddites are a symbol of resistance to change (Thompson, 1963). This heritage makes the area distinctive and something which Doris feels should be known about and acknowledged as an important set of events in history.

6.3.1.2 Social aspects

Social aspects refers to relationships with other residents from the neighbourhood. It includes what residents commented about the other people in the neighbourhood and their connections with them.

Social ties and support

Residents from all types of environment mentioned that there were warm, friendly people living in their neighbourhood. Social ties to the neighbourhood were frequently mentioned by urban residents. Participants mentioned that friends lived in the neighbourhood (e.g., Janet, Oscar), that there was a system of social support (e.g., Penny, Emily). All of which have been demonstrated to be important for attachment elsewhere (see Tables 2.2 and 2.3). Variables concerned with social ties have been incorporated into residential place attachment in the literature in both quantitative and qualitative studies (e.g., Feldman, 1996; Pendola & Gen, 2008) as well as the residential place attachment model constructed in Study 2. In addition, ‘Social Bonds’ was found to be a dimension of residential place attachment in the model
created in Study 2. Similarly to urban residents, having friends in the neighbourhood (Daniela), having social support (Andres, Pauline), knowing people (Andrea) are all important for attachment for rural residents. Social ties were infrequently mentioned by semi-rural residents.

Close community

For Alice being part of a community is an important aspect of her life in her semi-rural neighbourhood.

“You just kind of feel their sense of community which is actually, oh my God, that is so nice. Such a nice feeling”.

Alice has lived in the neighbourhood for three years which is a relatively short period of time. She appears to have made a significant effort to become part of the community.

“When we first moved here I was really conscious that, so my family don’t live down the road or anything. My mum lives in France and I’ve got family in Manchester and stuff but I was very conscious of, you know, being part of, you know, getting to know people and feeling connected to where we live”.

Pauline and Joyce mention that their rural villages have close communities. The importance of living in a close-knit neighbourhood for attachment was found in only two studies included in the systematic review (Study 1). Greif (2009) found it to be salient for attachment in her study of elderly residents in rural places and Pendola and Gen (2008) found it to be important for attachment as well as having a main shopping street for residents to socialise.

Memories

Oscar feels less attached than he once was to his urban neighbourhood as he now has social ties elsewhere but memories from his childhood are important for him. Memories were not mentioned by any other residents. It may be that residents think more about their memories of the neighbourhood if changes have occurred. For example, for Oscar, this is losing social ties to the neighbourhood.

6.3.1.3 Everyday life

Everyday life is an extension of social aspects of neighbourhood life.
Almost all residents commented on aspects of everyday life (introduced in section 4.2.2) although there was a clear difference in what aspects of everyday life were important for residents in the different environments.

**Amenities**

Available amenities were commonly mentioned. With regard to living in urban neighbourhoods, Penny and Rita report that they are happy with the available amenities supporting Stokols and Shumakers’ (1982) argument that place dependence plays a role in place attachment. Stokols and Shumaker (1982) maintain that the ability of the place to meet the needs of the residents is salient for the development of attachment. As with urban environments, available amenities appear to be important for semi-rural residents. They were mentioned by three participants.

The importance of amenities for the development of attachment is mentioned in other research. Burholt (2012) found ‘Appropriateness of resources for the environment’, which included support, amenities and accessibility, to be a factor in her quantitative place attachment model. Four qualitative studies found functional aspects of the environment to be important for attachment in urban locations. For example, Anguelovski (2013) found that higher place attachment is associated with more amenities in urban neighbourhoods.

For urban and semi-rural residents the presence of amenities such as shops and services appear to be important for attachment, in contrast, while rural residents mentioned what amenities are available or are not available, for most rural residents they were neither positive nor negative about available amenities. Although Oscar mentioned the lack of local healthcare facilities is a disadvantage. Joyce speaks of the lack of a village shop negatively. She comments

“The only thing, because it’s a car ride into Settle, so if you forget something then it’s, there isn’t that convenience… you have to be really quite organised… but I think people that have lived here for a long time probably are”.

Joyce’s comment suggests that for long term residents, lack of services and other amenities are not viewed negatively because residents are not used to having them. It is part of their routing to drive to the town to go shopping, for example.

Another aspect of everyday village life which contrasts with urban and semi-rural environments and which undoubtedly strengthens the sense of community in the village is the
importance of the local pub. Five rural residents mention the pub it appears to be where residents meet and socialise. Joyce argues that the pub and the church are important places for everyday life and whether one spends time in the pub or the church seems to be important for identity. She reports,

“I think there’s a church contingent and a pub contingent and there might be a slight overlap and people, we’re the pub contingent so people, you know, people chat but actually we don’t ever get visitors”.

Amenities, such as the local pub or the village church appear to be vital for everyday social life. This does not appear to be so in urban environments where people appear to have a few friends in the neighbourhood and tend to spend time with friends in their or their friends’ homes. For example, Janet’s comment

“There are some neighbours whose names I don’t know who I never see in the street to say hello to but if I just think up and down I’m just looking now up and down our bit of street erm we do know quite a few erm and some who you know would come round for meals and we’d go round to their house”.

However, for Penny who lives in an urban environment the church is an important place for everyday life as was the local supermarket before it was closed down.

Referring back to Felski’s (1999-2000) argument that the concept of everyday life is composed of “routine, habits and home” (section 4.2.2), Watson (2002) explored the role pubs play in everyday life. She argues that for some individuals regularly and repeatedly visiting the local pub can be important for a sense of social identity. It is seen as home. It provides “a sense of continuity, regularity and ordering of experience which is fundamental to their sense of place, of time and of security” (p. 189). The comments here support Watson’s (2002) argument and arguably the church and local shops may also play a role in the importance of everyday life for identity and continuity.

Pace of life

One aspect which was identified here in rural environments was pace of life. Pace of life has not arisen in previous research, probably because most neighbourhood attachment studies focus on urban neighbourhoods, is a more “old-fashioned”, slower pace of life to urban places. “It is more of an old-fashioned community space here. When I say old-fashioned, I mean very down-to-earth and very sort of countrified really” (Pauline).
However, there were mixed feelings. Joyce and Pauline found it to be a positive factor while Tony found it to be negative.

Convenience
The convenience of the urban and semi-rural neighbourhood for getting to other places is mentioned by some residents. An aspect of everyday life not commented on by rural residents. Tara reports that her neighbourhood is convenient for getting into town and Emily’s neighbourhood is convenient for work and visiting friends. Convenience for accessing other places has not been identified as important for attachment in the literature. It may be that convenience for getting to other places is important because it allows residents to spend more time in their neighbourhood. Aiello et al. (2010) found time spent in the neighbourhood to be related to attachment. Another reason may be that it is an ‘easy’, ‘stress-free’ journey to get elsewhere, possibly in comparison to where the resident used to live. Gatersleben and Uzzell (2007) found that walking and cycling to work as well as short commute times were associated with positive affective appraisals of the journey. If the journey to work and back is pleasant, it is likely that one will not arrive home stressed and tired.

Safety
Emily reports her urban neighbourhood is a safe place to live. Safety is incorporated into a number of attachment measures (e.g., Carson et al., 2010; Lewicka, 2008, 2010, 2011a) and has been identified in the qualitative study of Livingston et al. (2010). Perceived safety was found to be a dimension of residential place attachment in the model constructed in Study 2. Ben compares certain aspects of living in a semi-rural environment with living in an urban environment. He reports that safety and less traffic in comparison with urban neighbourhoods are important. Safety is not mentioned by rural residents. It may be that rural residents take that they live in a safe environment relative to more urban places for granted.

6.3.2 Presence of residential place attachment
During the interview participants were asked whether they felt strongly attached to their neighbourhood. All nine participants who were chosen for the high attachment groups agreed that they were. However, two of the nine participants who were identified in the questionnaire as having lower attachment also claimed to be strongly attached. There are
various explanations as to why those chosen for low attachment might report feeling strongly attached.

1. Focus of the interview. Participants knew that they were being interviewed to discuss their feelings of attachment to their neighbourhood and so may have been focusing on what they do like about the place. For example Doris claimed to be strongly attached because of her relationship with her neighbours who have accepted her family into the community. However, later in the interview Doris reveals that she is unhappy with various aspect of the neighbourhood itself, which have been found to be associated with lower levels of attachment and sense of community, such as, the lack of a neighbourhood centre (Pendola & Gen, 2008), heavy traffic (Brown et al., 2003), and lack of neighbourhood improvements (Brown et al, 2004).

2. Residency in the neighbourhood. Joyce only lives in her rural village part-time as she works away. It was believed that including a participant who only lived part-time in the neighbourhood would give fresh insights into attachment. Stedman (2006) found that seasonal residents demonstrate higher attachment levels than year round residents and reasons for attachment are very different. For year round residents, social and community aspects are important while for seasonal residents, environmental quality and escaping day to day life were more pertinent. Joyce reports “the scenery’s fabulous” and “the pace of life is slower, I think, and that’s nice. It’s just one big mad rush [in Manchester]”.

These findings support the work of Stedman (2006) and suggest that the neighbourhood attachment measure appears not to be as relevant for neighbourhood attachment in part-time residents. Items such as having close friends and contributing to the community are not as relevant and thus may explain the low attachment score.

6.3.3 Changing residential place attachment

How attachment changes over time is generally neglected in the research (Lewicka, 2011b). No studies included in the systematic review discussed changing attachment. From the systematic review results it was evident that researchers tend to focus on the strength of attachment but not with its development. In her review of place attachment research, Lewicka (2011b) concludes that processes through which places become meaningful to people need exploring and clarifying. Considering how attachment develops and changes over time may lead to insights as to why people are attached to the different types of environments.
Participants were asked in the present study whether their feelings toward the neighbourhood had changed over the time that they had lived there.

Only two participants from the urban group reported that their feelings of attachment have changed about their neighbourhood over the time they have lived there. Emily, who has lived in her neighbourhood for two years, reported that her feelings have strengthened due to familiarity, she knows the area better. Oscar, also in the lower attachment group reported that his attachment has reduced due to fewer social ties. “A lot of my friends are here, my childhood friends are here, but my best friends are from university and from high school, you know. Obviously when you go to high school you spread your wings just a little bit… There’s a lot of memories obviously from when I were younger. Not a lot now because I work in Leeds and I’ve studied in York, so all my attachments are there really” (Oscar).

For Oscar, social ties are apparently far more important than physical ties for attachment. He has few social ties in the area and although he still lives in Dalton, he is attached to the area where he works because of his social ties there.

Of those who claimed their feelings have not changed, the reasons for attachment may have changed. For example, Janet, who has lived in her neighbourhood for three years, points out “I don’t think I love Roundhay anymore than I did five years ago ‘cos I liked it then and I like it now… I have more personal feelings about it now like, well, that’s my kids’ school so it is a good school but it’s more than that now ‘cos it’s where the kids love going and where I know lots of parents and teachers, so it’s become more of a personal positive feeling”.

Janet’s attachment seems to have changed from being attached to the physical aspects of the environment to the social aspects.

Four of the six semi-rural participants report that their attachment has developed or increased. In three cases due to the development of social ties or participation in social activities. Simon and Sarah report decreased attachment due to fewer social ties. Again this supports the argument that social ties are important, if not initially, for longer term residential place attachment.

Of the rural residents, Jenny reported that her attachment has “solidified” over the time she has lived there. Daniela said that she feels increased attachment as she now has friends in the village. For the other four participants, they stated their feelings have not changed over time.
6.3.3.1 Physical and social change and residential place attachment

Some comments indicate that some residents seem unhappy with changes or threatened changes to physical and social aspects of the neighbourhood. Change may threaten attachment and residents’ sense of continuity. Similar to the argument that sometimes people are not fully aware to their feelings of attachment until there is a threat of being separated (Brown and Perkins, 1992; Proshansky et al., 1983) possible or actual changes to aspects of the environment may also threaten attachment.

Changes in the physical appearance of the neighbourhood may threaten the collective identity of residents making what is distinctive about the place, less so. Janet is unhappy that the traditional cobbles on the roads in the neighbourhood are replaced by tarmac when street repairs are carried out in her urban neighbourhood. This changes a distinctive aspect of the neighbourhood to the appearance of the majority of other roads.

Alice, who belongs to the high attachment group, complained of a change in amenities to her semi-rural neighbourhood. She reported that many residents opposed the opening of a new supermarket, fearful that it would threaten the local shops.

“We were kind of against it coming. We shop at Aldi, quite comically, in the next, like five miles down the road. We can’t go to the one in the village”.

Although Alice uses the supermarket, and did do prior to one opening locally, because residents saw it as a threat, Alice continues to shop at the supermarket elsewhere. Commenting that they cannot use the supermarket in the village suggests they are wary of disapproval of the community.

Some physical changes are seen as a threat to social aspects of neighbourhood life. Penny speaking of her urban neighbourhood argues that changes in amenities in the neighbourhood resulted in reduced social opportunities for residents.

“We had one particular supermarket Safeway and we could always be sure of meeting somebody we knew in there but that changed into a co-op and it’s never been quite the same. There’s hardly every anybody in there to meet but it used to be a place where you met your neighbours and now they have to go, you see they’ve got an access bus that takes the older ones to the big supermarkets so that’s how they get their shopping and the lots of people do it online now don’t they? So it’s not like it used to be”.
Two rural residents complained that more residences were being bought and used as holiday homes which is detrimental to the village in terms of housing process but also with regard to community life.

Comments about negative social aspects were made by some residents in the semi-rural, lower attachment group. Sarah and Simon both commented on fewer social ties in the neighbourhood.

“There are more people about that aren’t as friendly and a lot of people have moved away and other people have moved in who don’t seem to want to talk and be friendly, so it’s not the place it used to be” (Simon).

Both Sarah and Simon reported that the negative aspects of the neighbourhood which they spoke of have reduced their attachment to the neighbourhood over time. Oscar, who was in the urban lower attachment group complained about negative social aspects of the place, specifically that there was little to do in the neighbourhood and few places to meet socially.

Newcomers to the area and tourists are criticised by two members of the rural high attachment group. Andrea comments that because she has live in the village all her life that some might not appreciate and respect the village as much as she does. This appears to reflect individual distinctiveness, discussed above (Twigger-Ross & Uzzell, 1996).

“The people that come into the village don’t always appreciate the hard work that goes into keeping a small community going like this. They can be a bit ignorant” (Pauline). The comment by Pauline appears to demonstrate group distinctiveness. Pauline seems to be saying that while the community pull together for the sake of the village, this is threatened by incomers.

6.3.3.1.1 Desired changes

Participants were asked about what they would like to see change in their neighbourhood. The intention was that it may give some insight into why some residents are more attached than others if they are asked to reflect on what they are not entirely satisfied with. Although this is a tentative assumption. It is entirely possible that some residents are very highly attached and still may think of aspects of the neighbourhood which they may which to change.

Considering the importance of the social aspects of the neighbourhood, there were far fewer desired changes to social aspects of the neighbourhood. Participants may have assumed the
question was referring to physical aspects. Social aspects of place were not commented on as reasons for attachment as frequently by semi-rural residents as urban and rural residents. For the latter two groups that social ties appear not to be as important for semi-rural residents as urban and rural residents.

6.3.3.1.2 Desire to move away

Desire to remain in the neighbourhood is a variable commonly included in residential place attachment measures (see Tables 2.2 & 2.3) and as discussed in Chapter Three is influenced by the argument of Hidalgo and Hernández (2001) who argue that proximity maintenance is central to residential place attachment. Therefore, in the present study, residents were asked whether they wished to move away. They were then asked to explain why or why not.

Seven participants reported that they would willingly move away from their current residential area. All belonged to the lower attachment groups supporting the argument of Hidalgo and Hernández (2001).

In all three types of environment both physical and social reasons were given for a reason to change neighbourhoods. The physical reasons were, for the most part, due to necessity. The social reasons imply that losing social ties is associated with decreasing attachment and residents want to move because they no longer have social ties in the area, ignoring any physical features of the neighbourhood which may influence their attachment and to want to remain. It suggests social ties are stronger than physical ties in these cases.

Emily and Tara both want to move to what they consider a better area. Emily would like to move further from the centre of town. She reports that the road is very busy. Tara also wants to move to an area with less traffic. Traffic problems have been associated with lower place attachment (Brown et al., 2003, 2004). Traffic issues tend to be grouped with other behaviours, such as, graffiti, litter, unkempt properties, loud neighbours, as well as others (e.g., Brehm et al., 2013; Brown et al., 2003, 2004). As a result, the impact of traffic issues have not been identified as being so important to intentions to stay. Perhaps this is an area which urban planners and the government need to focus on. Specifically, reducing traffic flow in urban residential environments. In the rural environment cost of housing is why Tony would like to move and lack of public transport is important for Daniela.

Contemplating that one may have to move due to changing circumstances in health is considered by five participants (from urban, semi-rural and rural environments) who report
not wanting to move away. For example, when Pauline was asked whether she will ever move away, she replied that she would not “Unless there’s any reason, say if I become infirm and I can’t cope with the conditions that we have here”.

Oscar reports that the primary reason for wanting to move is due to social factors.

“A lot of my friends from university have travelled and I’ve probably thought, ‘Oh, I want some of that’ and I think if I hadn’t moved away to university I’d have never thought of that. I’d have just been like my friends and a bit bogged down … I want more for my life than just one little village in one little town in the middle of England”.

It appears that Oscar is influenced by the social group to which he considers he belongs. Because his friends travel, in order to identify with the group, he also wants to travel. This finding also echoes the findings of Gustafson (2001) roots/routes. Gustafson (2001) found that discovering new places was important for those who chose routes rather than roots. It was equated with freedom, growth and the accumulation of knowledge where remaining in one place was not.

Daniela argues that there are few social activities in her rural village. By commenting that it would be fine if you had grown up in the area, it appears that Daniela is contrasting the area with a previous residential area which Shumaker and Taylor (1982) argue contributes towards place dependence. Because of this contrast, the place does not fully meet Daniela’s needs. Arguably resulting in a lower level of attachment.

From various comments it appears that people expect to live in different places throughout their lifespan, primarily because, at various stages in their lives, different places do not meet their needs, either socially or physically. Places may be convenient for work on the one hand (Emily) but too busy to want to remain living there after one retires. Or it may be that one expects the house to become too difficult to manage (Simon, Doris), that the neighbourhood will not meet future needs (Daniela). Stokols and Shumaker (1982) found that people who were likely to move away from their current neighbourhood had lower attachment than those who chose to stay. In addition, those who felt the neighbourhood was not meeting their needs were more likely to move than those who felt the neighbourhood met their needs.

Andrea has lived in the village all her life. She has no desire to move. Perhaps her contentment to stay in the village contrasts with Oscar’s desire to leave the neighbourhood in which he has lived all his life because she has no other environment to compare it with. Oscar
has spent time away at university and reports that this experience has led him to want to see
more of the world. Stokols & Shumaker (1982) argue that part of forming place dependence
depends on comparing the present place with a possible alternative place which Andrea has
not had an opportunity to do. On the other hand, perhaps Andrea’s contentment to remain in
the village is due to settlement identity (Feldman, 1996). Arguably she sees herself as a
‘village person’, contrasting herself with those who have lived in the village a shorter period
of time, known as personal distinctiveness (Twigger-Ross & Uzzell, 1996). Therefore, living
in the village makes up part of her identity “Being brought up in the village you just, the
family’s part of the village”.

6.3.4 Exploring relationships between attachment in the three environments, social
cohesion, community environmental actions and personal environmental actions

As well as contrasting the presence and development of residential place attachment in urban,
semi-rural and rural residential environments, Study 4 explores whether residential place
attachment is related to social cohesion, participation in community and personal
environmental actions in order to address one application of residential place attachment and
explore the final aims of the thesis.

6.3.4.1 Social cohesion

While the questionnaire results of Study 3 demonstrated social cohesion to be strongly tied to
residential place attachment in all of the types of environment, there are clear differences
between the types of environment are with regards to social relationships between the
residents.

Close-knit/social ties

There are differences between the different environments as to whether residents consider
their neighbourhood close-knit. All rural participants report their community overall as being
close-knit. In contrast, only one urban resident claims his neighbourhood is close-knit and in
the semi-rural group, the three residents with high attachment argue they live in close-knit
neighbourhoods while the three lower attachment residents argue this not to be true.

Although all rural residents argue the neighbours to be a close-knit group, four participants
comment on the occurrence of disagreements between residents or groups of residents
“It’s quite a close community although having said that some people, because they’ve lived here a long time I think, there tends to be arguments… between different groups of people so it can be a bit fracas at some times” (Pauline).

Referring back to Joyce’s comment in section 6.3.1.3, there appear to be clear groups in the rural environments, which appear to have formed from length of residence in the village but also from where the residents spend their social time, as was found when considering the concept of everyday life and the importance of the pub in rural environments.

Andrea, who grew up in her village obviously feels a sense of belonging.

“Being a family, yeah, with my parents being brought up in the village you just, the family's part of village”.

Andrea, while feeling very much part of the place because of her ancestry there appears to be very accepting of newcomers if they can contribute positively and respect the place. It almost appears that she feels she is a caretaker of the village because of her ancestry there. This finding appears to reinforce the importance of history in the place. When the neighbourhood attachment measure was created in Study 2, having ancestors who had lived in the neighbourhood and having knowledge of history about the place were not included in the final measure as they did not load onto any factors. However, it may be that because of increased mobility (Gustafson, 2001) there are very few adults who live in the same neighbourhood or village that they grew up in and therefore is not a consideration for most people. Elsewhere, as discussed, the importance of having family who have live in the place for generations (e.g., Lewicka, 2008; Mishra et al., 2010).

Rural residents who were selected for interview on the basis of their low attachment score on the questionnaire all indicate they feel they are not part of an ‘in-group’ suggesting social ties and feeling a sense of belonging to a group are important for attachment.

“They really have like strong sort of bonds and they stick together but not, I mean, I don’t fit into that category, so I’m not really, I don’t really mix with in those circles if you want” (Tony).

Doris comments that her semi-rural neighbourhood is close-knit for some but not others. Doris explains
“The ones who were born and bred here are. They do know everybody, they know everyone but they’ve grown up along where they know their families they know their children and their children and their children and so on. They tend not to know many people like us who are comers in unless we make ourselves known to them. They are friendly when you do, you know, they will tell you the history of the area and, you know, we do feel quite attached to it now you know because we’re, we’re interested in our surroundings”.

Like Nicholas, Doris sees longer term residents as a group, excluding newer residents. From Doris’s remark, it seems there is a distinct group of locals, which one must become a part of in order to consider themselves a ‘local’.

Of the urban residents only Oscar has lived in his neighbourhood all his life and is the only urban resident who claims the neighbourhood to be close knit. His immediate neighbours have also lived in the neighbourhood a considerable length of time which, from Oscar’s comments appears to be a significant reason for the sense of being a close community. However, Oscar refers to his immediate neighbours rather than the neighbourhood in general.

“As I said, the old couple and then my other next door neighbours and then the ones two doors either way, they’ve been there for as long as I can remember so it’s like us own little community”.

Social ties are possibly also stronger in rural places because of the decreased opportunities for social interaction outside the village. Jenny who grew up in a large town and later moved to her village explains that villages tend to be close-knit because of the village’s isolation. This isolation from other communities may magnify the importance of feeling part of the community, or the in-group which is not seen in more urban communities where community relationships overlap and thus belonging to one group may not be as important.

“I think it’s in its very essence it’s because it is so far from anywhere you’ve got to just muddle along with everybody, you know. In the village are the people that you see on a day to day basis and, you know, you’ve, I think everybody sees, you know, you’ve got to make the best of it”.
Social support

From Andrea’s comments above social support seems to also be an important aspect of village life. She comments

“If there’s ever a problem or if anything going on, the village works together to get it right”.

Residents from urban neighbourhoods tended to point out that although they didn’t consider the neighbourhood close knit, people are supportive of one another. For example,

“It’s a very supportive community but we do not live in each other’s pockets. I mean, I know the people in the street but I wouldn’t say I know what they’re going to do each day or I wouldn’t know what their habits are other than I know the ones that go out to work each day. But by close knit I think in terms of groups of people who go on holiday together or have to meet for coffee every week. We don’t do that” (Rita).

Five urban participants commented on how supportive their community was. Only Tara does not mention this. She explains that her neighbourhood is not close-knit because of the high population turnover again indicating length of residence to be important for social ties and support in the neighbourhood.

Both Ben and Alice, who have high levels of attachment, comment that members of their communities are supportive of each other in their semi-rural neighbourhoods.

6.3.4.2 Residential place attachment, social cohesion and community environmental actions

The results of Study 3 found residential place attachment to be significantly positively related to community environmental actions when moderated by social cohesion in rural environments only. In Study 4, although social support was argued to be present in all environments, that the area in which they lived has a close community was only argued to be true consistently by rural residents and by only one urban resident suggesting that living in a close-knit community supports the likelihood of carrying out community environmental actions. In addition, a sense of responsibility for the neighbourhood may play a role.

The findings from the interviews demonstrate that residents in semi-rural and rural environments feel a greater sense of responsibility for the whole neighbourhood or village and report carrying out more behaviours with the intention of augmenting the neighbourhood
than urban residents. Most urban residents report that they feel responsible for the area directly outside their house but not in the neighbourhood in general. For example,

“We certainly feel responsible for the bit outside our house so litter, dog poo, you know, just on our small section but I wouldn’t feel particularly responsible for any other bits” (Janet).

In contrast all but one rural resident stated that they felt responsible for up keep in the village. Jenny explains why she feels responsibility for her village, “I think everybody has that responsibility when you live somewhere like this…. [If] you’re getting the benefit of somewhere like this then it’s up to you to put something back in to make sure that it’s there it’s there to enjoy”.

All three highly attached semi-rural residents report that they feel responsible for the upkeep of their neighbourhood while only one resident from the lower attached group feels responsible.

For those in rural and semi-rural environments who feel a sense of responsibility for the whole village or neighbourhood, there seems to be a strong link between feeling responsible for one’s neighbourhood and a sense of community in an attempt to protect it. For example, Joyce comments about her rural village

“Sometimes in the height of summer, there’s a car park just down from our house, a public car park, a pay car park, most people will park on grass verges instead of doing that. It’s awful… there’s a neighbour puts bulbs and stuff in the in the verge and it ruins all that you know”.

For the most part urban residents seem to assume that ultimately the local council has responsibility of the urban neighbourhood but residents are willing to contribute.

“There’s a bus stop and a litter bin outside my house and the litter bin, if I see litter on the road next to the litter bin obviously I’ll pick it up and put it into the bin but the council’s responsible for the area round about” (Emily).

It maybe that urban residents are more willing to carry out behaviours to augment the neighbourhood in areas which they frequent. Penny reports that she takes care of the green area in the cul-de-sac in which she lives, the area around her allotment, as well as helping to maintain the church grounds. If residents spend little time in their neighbourhood, getting in
their car to go to work and socialising away from the neighbourhood, it is possible they feel less responsibility for the neighbourhood.

Overall there appears to be a greater sense of responsibility for the neighbourhood and more community environmental actions performed by semi-rural and rural residents than by urban residents. Although urban resident are willing to take care of the area directly outside their own properties. This may be tied to how close-knit they see themselves as a community. Semi-rural and in particular rural residents tend to see themselves as pulling together to protect the local environment. Moser and Corroyer (2001) found politeness, holding open a door, to be less frequent in a more urban environment. They argue that people in large cities are more reliant on themselves and more indifferent to other people than in smaller cities. This finding may help explain why residents of urban environments feel less of a sense of responsibility. As well as urban residents being more indifferent to other people, they may also be more indifferent to their local environment.

6.3.4.3 Residential place attachment, social cohesion and personal environmental actions

The questionnaire results in Study 3 found no significant relationship between residential place attachment and participation in personal environmental actions in any environment. Through the interviews an attempt was made to explore why residents perform personal environmental actions or not.

Four of the six urban residents report being worried or concerned about the effects of climate change. Of the two who are not concerned Rita belongs to the high attachment group while Oscar belongs to the lower attachment group. Three semi-rural residents report being concerned about climate change, two participants from the high attachment group (Ben and Nicholas) and one from the lower attachment group (Doris). Three rural residents report being concerned about climate change, two in the highly attached group (Jenny, Pauline) and one in the lower attached group (Tony).

All residents carry out recycling. Considering that those who are not concerned with the effects of climate change also recycle, why residents carry out the behaviour was considered. Recycling appears to be considered a social norm, that is, an acceptable behaviour which members of the community or society are expected to carry out (Aronson et al., 2007). Social
norms play a role in community social cohesion (Forrest & Kearns, 2001). Social norms have been tied to social and physical ties to place (Taylor, 1997).

“We personally do recycling. I think everybody in our street does” (Rita).

“It’s just drummed into you, isn’t it?” (Sarah).

“We wouldn’t think of not recycling, you know. My four and six year olds have just bounced in now, they know that if they screw up a piece of paper it goes in the recycle bin. They don’t put it in the bin. Every fortnight our green bin goes out and there’s people up and down the street who don’t. Well why?” (Janet).

Rita, Sarah and Janet’s comments indicate that recycling for them is an ‘automatic behaviour’. But it’s also expected that the other residents will also recycle. Rita makes the assumption that everybody carries out the behaviour. Janet disapproves of the households who do not.

Rather than contributing to community identity, Oscar carries out recycling because he sees not being wasteful as part of his regional identity. He comments “why waste something when it can be used again? That kind of thing, I think it’s a very Yorkshire sentiment really, a very northern thing. If you asked quite a few people I think it wouldn’t be a case of saving the environment. I think it’d be, there’s no point wasting something that can be used again”.

Rather than residential place attachment playing a role in recycling behaviour, the importance of the behaviour is in community life, as a behaviour that the people who live in that neighbourhood do and re expected to do.

Andrea carries out recycling behaviour to support her village rather than carrying it out to combat the effects of climate change. She explains,

“The local swimming pool does waste paper so I keep there and take it down to the local pool rather than district council taking the money”.

A link has already been observed between community environmental actions and residential place attachment in rural environments suggesting that when rural residents perceive a sustainable behaviour as being directly beneficial to their local environment, they may be more likely to carry out the behaviour. Similarly, Alice, while she is not concerned about the effects of climate change, has high place attachment and wants to support the local
community by shopping at local shops, having a milk delivery from the local farm, and so on. In doing so, she behaves in a sustainable manner.

Some residents report carrying out personal environmental actions in order to protect the environment from the effects of climate change. For example, Emily is worried about the possible long term effects of climate change on both her local environment and further afield. Although Emily is in the lower attachment group, it appears that her attachment is tied to wanting to protect the area, as suggested by Carrus et al. (2014).

“I don’t want where I live to turn into a steaming hot desert where you can’t go out in the daytime but also I know that me turning a tap off and turning the electric lights off every so often isn’t going to affect just my neighbourhood it’s going to affect the whole planet”.

However, many residents from all environments are not concerned with the effects climate change might have in the area in which they live which may be why residential place attachment is not associated with carrying out personal environmental actions.

Personal environmental actions were found to be performed for reasons other than concern for the effects of climate change. For example, Oscar reports using energy saving light bulbs and driving economically in order to save money. Simon and Sarah have solar panels also for economic reasons.

To summarise, it appears that residential place attachment in itself is not enough to encourage people to act in a sustainable manner although, living in a close-knit community appears to encourage residents to want to support the community by shopping locally and supporting local cooperatives and businesses.

6.4 Conclusion

While the findings from the interviews lend support not only to the questionnaire results but to the wider literature, more importantly, they provide fresh insights into residential place attachment and to why people carry out behaviours which community environmental actions and certain personal environmental actions.

The interviews indicated aspects of the environment which are commonly found in neighbourhood attachment measures, and which were included in the measure created in Study 2, such as social support or feelings of safety. Though the interview results also provided knowledge regarding what should be incorporated into neighbourhood attachment
measures, such as whether the place has green areas, whether it is peaceful, and whether the history of the place is known.

In addition, the interviews contributed to how residential place attachment changes over time, a neglected area of research according to the results of the systematic review (see also Lewicka, 2011b). The results of the interview provided insights of how attachment changes over time from the physical space and practicalities as being initially very important to gradually incorporating social relationships with increased length of residence.

The findings indicate that there are differences in reasons for attachment in the different types of residential environments. The presence of green space was important in all areas. Aesthetical qualities, such as beautiful scenery, a knowledge of the history of the place, and that the community were close-knit were important qualities in semi-rural and rural environments. Convenience, with regard to getting to other places, such as work, was important in urban and semi-rural environments.

Social ties were found to differ in the different types of environment. Strong social ties were reported in rural environments, semi-rural residents spoke of a decline in social ties as many new people were moving to the area, and also due to an increasing number of commuters to the nearby cities. In urban environments interviewees reported having friends in the neighbourhood but generally the neighbourhoods were not considered close-knit. It was concluded that social cohesion may be linked to attitudes about responsibility being that both rural and semi-rural residents reported feeling a sense of responsibility for the neighbourhood or village while urban residents did not. However, that the community was close-knit was only consistently argues to be true by rural residents. This lends an explanation firstly to the questionnaire findings as to why in the urban and semi-rural environments neighbourhood attachment was not linked to community environmental actions as well as the findings of Hidalgo et al. (2015).

As with the questionnaire results, there was little association between neighbourhood attachment and personal environmental actions. Personal environmental actions appear to be more directly related to community and regional identity than attachment.
Chapter Seven

Discussion

7.1 Why explore residential place attachment and its relationship to community environmental actions and personal environmental actions?

As yet why some people carry out sustainable behaviours while others do not has not been fully explained by psychological research (Kollmus & Agyeman, 2002). This thesis aimed to address what contribution the concept of place attachment could make to explaining propensity to perform sustainable behaviours. Little research has been carried out exploring the role of place attachment for sustainable behaviour participation. Where it has been undertaken, the results are inconsistent. However, before this could be explored, the thesis needed to address the considerable differences in the research literature with regard to how place attachment is defined and conceptualised. Having a valid and reliable definition of place attachment is essential if we are to understand if and to what extent place attachment contributes to sustainable behaviour participation. Previous research indicates that there may be different reasons for attachment to different types and scales of place and thus it was decided to focus on the most commonly studied place, the neighbourhood. Furthermore, until now, focusing on place attachment at the neighbourhood level and how it is related to sustainable behaviour participation has not been explored.

It was decided that in order to effectively apply the concept of place attachment and consider whether residential place attachment plays a role in propensity to act sustainably, an evaluation of the current literature needed to be explored to determine how residential place attachment should be defined and conceptualised. Thus the first two studies of the thesis addresses the first research question which was;

1. How should residential place attachment be defined and conceptualised?

The second, third and fourth studies of the thesis are also concerned with defining and conceptualising residential place attachment, but are also concerned with exploring residential place attachment in different types of residential environments as well as applying residential place attachment and address the research questions two to four;
2. Are there differences in place attachment in urban, semi-rural and rural residential environments?

3. Is there a relationship between social cohesion and residential place attachment?

4. How does residential place attachment contribute to community environmental actions and personal environmental actions?

What follows is a discussion of the significant findings which were uncovered through exploring the thesis research questions and how these findings contribute to the current place attachment literature.

7.2 Defining and conceptualising residential place attachment

7.2.1 Place attachment as specific to type and scale of environment

Various reviews of the place attachment literature have been carried out (e.g., Lewicka, 2011b; Scannell & Gifford, 2010a) considering why place attachment develops. Of the few studies which have explored differences in place attachment at different scales types, the evidence indicates that the reasons for attachment vary (Hidalgo & Hernández, 2001). Furthermore, if one compares what is found to be important for attachment in different types of environment, for example, comparing urban neighbourhoods (e.g., Bonaiuto et al., 1999) to rural recreational areas (e.g., Kyle et al., 2005), it is clear there are different reasons for attachment in the different types of places. Therefore, place attachment cannot be examined as a general phenomenon. What variables are salient for the development of place attachment cannot be combined as place attachment needs to be defined by the type and scale of place. Consequently, this thesis focused on residential place attachment.

In order to test whether the comprehensive residential attachment measure is sensitive to environmental differences, data were collected from residents in urban, semi-rural and rural residential environments in order to explore whether types of residential environment are important for the development of residential place attachment (Study 3). It was expected that residential place attachment would be greater in the urban environments as the measure was constructed from primarily urban residents’ responses. However, attachment in rural environments was found to be significantly greater than in urban and semi-rural environments. Nevertheless, the model explained less variance in the rural data set indicating that, as anticipated, the measure explains why attachment occurs and develops in urban and semi-rural environments better than it does in rural environments. These results reinforce and
develop the above argument that the study of place attachment must be specific. Even when examining place scale at one level, the neighbourhood in this case, place attachment is sensitive to environmental differences which indicate that when exploring and applying residential place attachment it is necessary to be very specific as to what environment one is working with.

In-depth interviews undertaken in the three different types of residential environments supported the finding that differences in both the physical and social aspects of neighbourhoods led to different kinds of place attachment.

### 7.2.2 Combining research from different disciplines

An important contribution to the current place attachment literature concerns considering the research from different disciplines. The place attachment research from different disciplines usually follows separate paths contributing to the different definitions, conceptualisations and methodologies for studying place attachment which exist (Patterson & Williams, 2005). Rather than focusing only on the literature from the discipline of psychology, the systematic review included studies from various disciplines including: environmental and social psychology, anthropology, urban geography, and architecture and planning, resulting in variables being included in the model which have not previously been considered by psychologists as being salient for the development of residential place attachment. For example, items included in the ‘efficacy and control’ factor included those concerned with residents feeling that they contributed to improving the neighbourhood. This was identified in three studies included in the systematic review presented by health and ecology researchers (Rogan et al., 2005), an anthropologist (Woldoff, 2002) and a social scientist in the area of urban and environmental planning (Anguelovski, 2013). Also included in the ‘efficacy and control’ factor were items concerned with a sense of having some control over decisions made about the neighbourhood. This was also found to be included in three studies in the systematic review, written by gerontologist researchers (Carson et al., 2010), sociologists (Pendola & Gen, 2008) and the health and ecology researchers mentioned above (Rogan et al., 2005). There are no psychological studies included in the systematic review which have incorporated these aspects of efficacy and control in the neighbourhood into their attachment measures although efficacy and control was found to be an important factor in the model constructed in Study 2, accounting for 7.9% of the variance. This illustrates the importance of
considering research from other fields in place attachment in order to contribute to and advance the knowledge in the field as a whole.

7.2.3 Considering different theoretical concepts

However, results of a systematic review, detailed in Chapter 2, demonstrates that theory development is weak in the place attachment literature. There is no overarching theoretical framework to explain place attachment. Because place attachment is an interdisciplinary subject various theoretical influences are apparent and which are contested by other approaches. Three such examples include; a phenomenological argument which maintains place cannot be separated from people but rather is the phenomenon “person-or-people-experiencing-place” (Seamon, 2014, p. 11). Place attachment has been linked elsewhere to Bowlby’s (1969, 1982) developmental interpersonal attachment theory. It has also been argued to have affective, cognitive, and behavioural components as do the social psychological concepts of attitudes (Scannell & Gifford, 2010).

A result of taking into consideration research from various disciplines is that theoretical concepts from other disciplines might be found to be pertinent. Different theoretical concepts can add to psychological knowledge regarding residential place attachment. Some concepts have been incorporated into psychological theories and models, for example, the sociological concept community attachment, emphasises the importance of social attachments in a place. However, another sociological concept, “everyday life” (Lefebvre, 2002), which describes the importance of day to day social life within the neighbourhood, has been ignored by psychologists. From the interviews carried out in Study 4 rural pubs were found to be an important place for strengthening community relationships and contributing to a sense of local identity. Strong community ties and feeling part of the place are associated with higher place attachment (e.g., Burholt, 2012; Carson et al., 2010; Williams et al., 2010). Elsewhere studying everyday social life in places has contributed to knowledge of social relationships in places, for example, gender and social relations (Whitehead, 1976), adapting to living in a new community (Young & Wilmott, 1957). Incorporating the concept of everyday life into place attachment research would undoubtedly lead to valuable insights into the development and maintenance of residential place attachment.

7.2.4 Employing mixed methods

Psychologists have typically used quantitative methods, specifically surveys in exploring place attachment (Lewicka, 2011b), yet the systematic review demonstrates that valuable
insights into residential place attachment were provided from including qualitative studies in the review. For example, considering how attachment develops over time is difficult to explore when using quantitative methods, which may go some way to explaining how attachment develops and changes has been a neglected area by psychologists (Lewicka, 2011b). The qualitative study by Livingston et al. (2010) determined that a positive personal history, that is, positive experience within the place collected over time, such as feeling welcomed by existing neighbours, people in the neighbourhood being friendly, was associated with higher residential place attachment. Twigger-Ross & Uzzell (1996) found that place attachment was higher for those residents who had seen their neighbourhood improve over time.

Not only were mixed methods considered in the systematic review (Study 1) but in order to explore more comprehensively residential place attachment and its relationship with community and personal environmental actions, semi-structured interviews were undertaken (Study 4) leading to further original contributions to knowledge. The results of studies 3 and 4 show cause for including mixed methods. The interviews reinforced some findings from the quantitative studies, such as the importance of social ties for attachment (e.g., Aiello et al., 2010; Rollero & De Piccoli, 2010) as well as those of some qualitative studies included in the systematic review, such as the importance of living in one’s preferred type of place (Feldman, 1996; Twigger-Ross & Uzzell, 1996). But more importantly, the results of the interviews provided novel information about why and how residential place attachment develops in the three environments and highlighted the importance of both physical and social aspects of residential place attachment. Social cohesion was found to have an important relationship with residential place attachment in all three environments. Rather than the assumption being made that social relationships and cohesion were similar in all three environments, as might have been the case by only using questionnaires, the interviews identified that social cohesion was quite different in the different types of environments. The importance of access to and the presence of green ‘natural’ areas for the development of residential place attachment was found in all three environments. Green space, or ‘natural’ areas has generally been ignored in the literature. Arguably rural residents have more access to ‘natural’ spaces. Previous research has demonstrated that ‘natural’ environments are significantly more often chosen as favourite environments than any other environment (Kaplan et al., 2009). They are argued to be restorative (Kaplan et al., 2009).
Survey 1 found that affective appraisals highlighting excitement and relaxation were significantly positively related to ‘affective bonds’ and excitement and pleasant were significantly positively related to ‘memories and experience’. Not forgetting that Survey 1 was primarily made up of data from urban residents, pleasant and relaxing environments may be associated with ‘natural’ spaces by residents.

### 7.2.5 Identifying moderators

A great many studies argue length of residence to be the most reliable predictor of place attachment (e.g., Bailey et al., 2012; Lewicka, 2008, 2010, 2011a; Williams et al., 2010). The research findings here demonstrate length of residence generally does not appear to be as important for residential place attachment as was initially assumed but appears to be moderated by other variables.

**Social cohesion**

Social cohesion was found to be a strong predictor of residential place attachment in all three environments. The interviews revealed social ties become more important for attachment over time, when residents have got to know and become friends with their neighbours, which explains why length of residence may also be such an important predictor. The longer one lives in the neighbourhood the more social ties generally one makes. Those who have lived in their neighbourhood for a relatively short period of time had higher attachment when they took part in social activities and events more frequently than those living in the neighbourhood for longer who do not participate in activities and events. For example, Alice has only lived in her neighbourhood for three years but was determined to become part of the community. Rita has lived in her neighbourhood for 44 years but because she used to work out of the neighbourhood she rarely met neighbours, did not attend local events and has lower attachment.

**Types of environment**

Length of residence was not significantly related to attachment in the rural environments indicating that it is the more physical aspects of the environment that are important for rural residents such as the aesthetically pleasing green landscapes and the architectural history, which would explain why rural residents become more quickly attached to their villages. Over time, social bonds build and strengthen attachment, explaining why place attachment is significantly stronger for rural residents. In addition, if Krout’s (1988) argument is
considered, when social ties develop in rural environments the increased social interaction by being in a smaller, more isolated place results in stronger social ties.

Not only is type of environment responsible for different physical features which influence strength of attachment but the interview results found that there are differences in social relationships in the different types of neighbourhoods. The relationship between routine and the familiarity of the backdrop to everyday life in rural places was identified as a salient factor for place attachment. In particular settings such as the local pub and the social interactions which take place there which are vital for building a community. Watson (2002) points out that the role of pubs has changed. They are important for identity, reflecting fashions and status through concept pubs and alcohol brands. While this may be the case in urban environments, it became evident through the interviews that the role of the rural pub is still a social space reinforcing local identity. The sociological concept of everyday life has not been considered by psychologists in the place attachment research so far but is undoubtedly important to consider in future research. In rural environments it may be the case that because the communities are more isolated it has led to them becoming more close-knit (Krout, 1988). The development of attachment in rural environments is certainly also due to the importance of interactions in important social places such as local pubs and churches. Social ties appeared to be less important in semi-rural environments than in urban and rural environments. Many semi-rural residents commute to the nearby towns and cities for work. It may be that residents have close friends and social spaces further afield because of this. While urban residents report having social ties in the neighbourhoods, it is the close-knit rural community that is associated with higher residential place attachment.

Knowledge of history and heritage

The interviews revealed that the history and heritage of the area were especially important for feeling attached to one’s neighbourhood. For example, Anna who has lived in her neighbourhood for two years and has high residential place attachment has considerable knowledge about the history and heritage of the area.

History and heritage was important in rural and semi-rural residents though not for urban residents. These findings highlight not only the importance of using mixed methods, but also of considering different types of residential environment. History and heritage are incorporated into very few studies. Only two studies included in the review uncovered heritage to be salient for place attachment. Both of these were qualitative studies exploring
rural place attachment (Amsden et al., 2011; Anguelovski, 2013). Perhaps why these aspects are so often overlooked is that they are not as important for urban residents and most of the literature explores urban residential place attachment. These findings may be useful for urban planners because by incorporating accessible green areas which residents find aesthetically pleasing, as well as making information about the history of the area available to residents, may increase levels of place attachment in the area.

7.2.6 Changing residential place attachment

A final important aspect of residential place attachment which previous research seldom explores (Lewicka, 2011b) is how residents perceive their attachment changes over time. The results reinforce the importance of both physical and social aspects of the environment for residential place attachment, as has been demonstrated throughout the thesis (see Study 2 and 3 results) as well as elsewhere in the literature (e.g., Burholt, 2012; Skjæveland et al., 1996; see also Tables 2.2 and 2.3). Length of residence, which is a commonly included predictor variable for place attachment, was found through the interviews to be less important in rural places than urban places. Study 3 found length of residence was significantly positively related to attachment only in urban and semi-rural environments. Rural residents appear to be attached very quickly to the aesthetical qualities of the environment, not the case for urban residents. The importance of social ties develops over time in all environments and therefore explains the quantitative findings of Study 3.

7.3 Exploring the relationship between residential place attachment, community environmental actions and personal environmental actions

7.3.1 Why measure community environmental actions and personal environmental actions separately?

The second thesis research question addresses exploring an outcome of residential place attachment, specifically whether it leads to community and personal environmental actions. In order to test the assumption that residential place attachment is associated with a desire to protect the environment (Carrus et al., 2014; Manzo & Perkins, 2006) the relationships between residential place attachment, community environmental actions and personal environmental actions were explored. Previous studies (e.g., Halpenny, 2010; Kyle et al., 2003) have questioned whether place attachment is a precursor for the propensity to carry out sustainable behaviours, or personal environmental actions, and found mixed results. Although
focusing specifically on the relationship between residential place attachment and sustainable behaviours is rare. The purpose of splitting sustainable behaviours into two types was to investigate whether higher residential place attachment leads to personal environmental actions, community environmental actions or both. In one study the relationship between residential place attachment and community environmental actions has been investigated. Hidalgo et al. (2015) found no evidence to suggest residential place attachment was related to neighbourhood maintenance behaviours. However, they point out that this needs further investigation.

7.3.2 Social cohesion as a moderator between residential place attachment and community environmental actions

In the urban and semi-rural environments the findings of the questionnaire suggest there is no relationship between residential place attachment, community environmental actions and personal environmental actions. In the rural environments, no relationship was found between residential place attachment and personal environmental actions, though community environmental actions were found to be positively significantly related to attachment. Social cohesion was found to moderate the relationship between residential place attachment and community environmental actions in rural environments.

Considering the research findings which demonstrate social aspects of the neighbourhood to be more important than physical factors for evaluation of perceived neighbourhood safety (Acuña-Rivera et al., 2014), the thesis findings demonstrate social aspects of the neighbourhood to be more important than physical factors for performing community environmental actions. In rural areas where residents demonstrate high attachment to physical factors this in itself does not lead to community environmental actions, it is only when residential place attachment is moderated by social cohesion that a significant relationship with community environmental actions is found.

Social cohesion has been demonstrated to be salient for sustainable behaviour elsewhere (Guárdia & Pol, 2002). Where social cohesion and place identification are positively related to identity, this then has a positive effect on propensity to carry out sustainable behaviours (Uzzell et al., 2002). What the findings here demonstrate is that residential place attachment does not appear to lead to community environmental actions alone, though if policy makers focus on encouraging social cohesion within residential environments this will lead to an increased participation in community environmental actions. Almost all semi-rural and rural
residents considered the upkeep of the neighbourhood as their responsibility. This, along with the close community ties which rural residents report and the greater appreciation of aesthetical qualities than urban and semi-rural residents leads to a greater desire to protect the neighbourhood. Although the relationship between residential place attachment and community environmental actions was not significant in semi-rural environments the interviews were very much split with three residents arguing the neighbourhood was close-knit with some residents arguing that it was their responsibility to protect the neighbourhood while others were more similar in their attitudes to urban residents arguing the neighbourhood was not close-knit and that they did not feel responsible for maintaining and improving the area. This suggests an area for further research.

7.3.3 Residential place attachment and identity

Although social cohesion was found to be a moderator between residential place attachment and community environmental actions and social cohesion has been found to be related to identity and sustainable beliefs and actions (Uzzell et al., 2002), the relationship between place attachment and identity is not clear. Whether attachment leads to identity (e.g., Brown et al., 2003, 2004; Hernández et al., 2007) or whether attachment and identity are separate, yet related concepts (e.g., Jorgensen & Stedman, 2001) is a contested issue in the literature.

In order to determine whether participants identify with the environment itself participants were asked whether they thought their feelings about the neighbourhood reflects the type of person they are (Study 4). Participants with high attachment from all three types of environments spoke of identifying with the place. For example, Jenny explained her rural residential place attachment in relation to the type of person she is. Some residents spoke about feeling part of the place. Five residents spoke of identity with other residents rather than the place itself which seems to indicate attachment to the people rather than the place is more important to them. Tony who demonstrated low attachment spoke of how he did not identify with other residents because he did not grow up in the village and as a result has always felt like “an outsider”. Other participants demonstrate that they identify themselves with both the environment and people in the environment. These findings demonstrate how closely bound attachment and identity are. What they also reinforce is the importance of exploring both social and physical aspects of place.

Researchers exploring identity and place tend to do so through the theoretical concept of place identity (e.g., Knez, 2005; Lewicka, 2008), which focuses on identity with the physical
environment, which it is argued then contributes to shaping self-identity (Proshansky, 1978) or from a self-identity perspective, that is, focusing on social relationships within an environment (e.g., Valera & Guárdia, 2002). There is little research exploring these aspects of identity together to determine whether people identify with people or physical environments first and foremost.

**7.4 Reflection on methodology**

Unfortunately, due to the large number of variables uncovered in the systematic review, selecting the variables to include in the Study 2 questionnaire had to be selective to a certain extent. Had two items relating to each variable included in Tables 2.2, 2.3 and 2.7 been incorporated into the questionnaire, it is extremely unlikely that an adequate sample size would have been collected. However, it is felt that excluding some variables which were very similar to variables which were included in the questionnaire did not compromise the study. In addition, it is felt that excluding variables which were included in very few studies did not undermine the results of Study 2, the exception being aesthetical beauty. Due to beauty being mentioned in reference to natural areas which were located near the residential areas rather than in relation to the residential areas themselves it was not included in the list of variables. The interview results (Study 4) demonstrated aesthetics and the presence of green areas to be important for residents in all environments and therefore would have likely been incorporated into the residential place attachment model created in Study 2.

Although there are arguments for and against data collection using a market research company, arguably the principal advantage here was achieving a large sample in Study 2 and thus a confirmatory factor analysis could be carried out to lend reliability to the hypothesised residential place attachment model. The results from the exploratory factor analysis (Study 2) demonstrated that the residential place attachment model explains over two-thirds of the variance when all five factors were included. While this is a relatively high proportion of explained variance, there is still almost one-third of the variance left unexplained, suggesting there are further reasons for residential place attachment which have not as yet been identified.

The interviews (Study 4) sought to identify further reasons for attachment. While the superiority of employing mixed methods over single methods should not be assumed (Coyle, 2007), in the present case using qualitative methods to develop the quantitative findings and provide new insights. However, on reflection some changes to the interview schedule may
have resulted in exploring residential place attachment even further. For example, from analysing the results and identifying the importance of the concept of everyday life for residential place attachment in rural environments, the inclusion of questioning people how they spend time in the neighbourhood and in social places within the neighbourhood might have explored how everyday life influences social relationships in all the environments and provide valuable information about differences in this aspect of neighbourhood life. Additionally, as no direct ties were found between residential place attachment and community environmental actions in any but the rural environments in Study 3, this should have been explored further in the interviews in an attempt to uncover why this connection is made in rural but not urban environments. Nevertheless, important findings were revealed and ideally, the qualitative findings from would be incorporated into the residential place attachment measure with the intention of developing the one constructed in Study 2 to identify whether with these new insights from the rural interviews contribute to explaining residential place attachment in all three environments.

A further comment regarding methodology concerns the predictor variables included in Study 3. The results demonstrate that from the included predictors only social cohesion (in all three environments) and length of residence (in urban and semi-rural environments) are significantly related to residential place attachment. Furthermore, that the predictors explain only 29% of the variability in attachment in rural environments. While this rises to 42% in urban environments and 67% in semi-rural environments, it would have been an advantage to include further potential predictor variables in the questionnaire. Those which were included, specifically; age, gender, employment, group membership and perceived neighbourhood improvement, were included as their ability to predict residential place attachment is contested in previous studies (see Table 3.5). It was decided to include relatively few potential predictor variables in an attempt to limit the length of the questionnaire as respondents are less likely to complete the questionnaire if they consider it to be too long (Galesic & Bosnjak, 2009).

There is considerable focus on attachment to social aspects of places with very little focus on attachment to the physical aspects of places in the place attachment literature. It is possible that this is due to the studies included in the systematic review being primarily those written from within a social science epistemology. However, although the majority of studies are those written by researchers from psychological and sociological backgrounds, there are
studies from urban geographers, architects and planners suggesting that the physical aspects are also overlooked in other fields.

Because the residential place attachment measure constructed in Study 2 is built from the variables incorporated into this body of literature, the measure is lacking in items tapping attachment to physical aspects of the residential area, for example, access to green spaces or aesthetical qualities. The interview findings revealed the importance of physical aspects of the area for residents’ attachment in all three types of residential area, so clearly items concerned with physical aspects of the environment should have been incorporated into the measure. An alternative approach to constructing the residential place attachment measure in Study 2 would have been to carry out the interviews in advance, and construct the measure based on the interview findings. However, the advantage of the measure constructed in this research is that rather than simply adding a new place attachment measure to the large number which already exist, this measure uses the existing research findings to construct the most comprehensive residential place attachment model using the various variables argued to be important for place attachment in the same context. Furthermore, the findings from Study 2 were then used to guide the interview questions in order to explore attachment more thoroughly.

7.5 Implication for future research

The construction of a systematic multi-disciplinary neighbourhood attachment measure means that this measure can now be used to address inconsistent results in other areas in which residential place attachment has been applied, such as social housing policy and neighbourhood revitalisation. Of course, this measure was specifically aimed at measuring residential place attachment. Results highlighted the importance of considering place attachment for specific types and scales of places therefore the next stage of research is to break down and systematically examine place attachment in other scales and types of places in order to be able to apply it accurately and consistently in whichever area it is needed.

In addition, the results of the rural interviews have provided valuable insights into why rural residential attachment is higher than in urban areas. Findings which are valuable for urban policy makers and planners attempting to increase urban residential place attachment.

Further research should explore rural residential place attachment in greater depth. Considering that residents of rural environments are more willing to work together to protect and improve their local environment than are urban residents, it would be beneficial to
explore why this is so in order to identify how reasons for attachment may be changed in urban environments and following this, encourage residents to protect and improve their local environment. This could have important implications for policy makers to encourage residents to carry out sustainable behaviours. Study 4 revealed that some residents carry out behaviours intending to help the local environment, for example, buying locally sourced products, and recycling items because the local school receives the money made from it. These behaviours not only support the local environment but are beneficial for the environment in general.

A continuation of the research presented here would be to introduce the variables uncovered through the interviews in Study 4, such as the importance of physical aspects of the environment for attachment and different types of social relationships to the measure. This might involve a re-evaluation of the measure to identify how much more variability is explained and to produce an even more reliable residential place attachment measure.

The research identified how little focus has been placed on physical aspects of place when considering place attachment, not only in psychology, but also in the other disciplines which have an interest in place attachment. Arguably the most important research which needs to be carried out is to consider what it is about the physical environment that leads to attachment rather than focusing primarily on the social aspects. This may have been neglected until now because of the difficulty in categorising and articulating precisely what particular elements of the environment lead us to become more attached. For example, it is easy to report that one likes the scenery in a specific place, but this is rather vague and all encompassing. Why might one be more attached to the North York Moors than The Peak District or one suburb of Leeds to another suburb when controlling for social ties? What differences in the physical environment exist which lead to higher attachment in one than the other? Can the physical and social aspects be separated? There are still numerous questions which need exploring to more fully understand place attachment.

7.6 Summary of contribution to research

7.6.1 Knowledge

Knowledge in the field of place attachment has been advanced through exploring previously unasked questions. Unlike previous place attachment reviews, in identifying that place attachment cannot be considered a general phenomenon but must be regarded as specific to
each type and scale of place, focusing on the research surrounding residential place
attachment and how it is defined and conceptualised is an original piece of research.

Whether there are salient differences between types of neighbourhood was investigated. The
research findings indicate that this is the case. Place attachment develops more quickly in
rural places as attachment to physical features of the place is more important than in urban
and semi-rural neighbourhoods. Social ties in all environments develop over time explaining
why length of residence is often assumed to be important of place attachment in the literature.

The development of place attachment is often considered to be primarily due to length of
residence. Rather than a direct link between length of residence and residential place
attachment, social cohesion, living in a rural residential environment, and knowledge of the
history and heritage of the area were found to moderate this relationship.

7.6.2 Theory
In addressing the argument that place attachment research is fragmented and progresses
extremely slowly due to lack of communication between the difference disciplines interested
in exploring place attachment, studies from a number of disciplines were included in the
systematic review in an attempt to determine the most salient variables for residential place
attachment. The comprehensive neighbourhood attachment model was developed from the
results of these studies. As a result it incorporates variables as yet not included in the place
attachment models constructed by psychologists.

A case is made for the importance of introducing the concept of everyday life for advancing
place attachment theory. Specifically the importance of social interactions in community
spaces for developing community relationships and strengthening local identity.

7.6.3 Method
Rather than restrict the findings of the research by only using quantitative methods, the use of
mixed methods enabled a more comprehensive consideration of why residential place
attachment develops and pointed to important differences in why attachment develops
depending on the type of residential environment. This was particularly evident with regard
to social relationships. Social cohesion was found to be strongly positively related to
residential place attachment in all environments. It was the interviews which revealed that the
interactions in the community spaces, the more isolated life from non-residents and the sense
of community responsibility for protecting the place resulted in much closer-knit
communities than in more urban environments. In turn these findings explained why social
cohesion was found to moderate the relationship between residential place attachment and community environmental actions in rural environments only.

7.6.4 Applications
In acknowledging that place attachment is not a general phenomenon it follows that when investigating the role of place attachment in areas such as neighbourhood revitalisation, community space design, health and well-being, what type of neighbourhood residents are living must be focused on as it plays a crucial role in how place attachment develops. The comprehensive neighbourhood attachment model can be applied in wider research in urban residential environments.

That social cohesion moderates the relationship between residential place attachment and community environmental actions is an important finding for policy makers. The finding suggests that policy makers need to turn their attention to attempting to develop the social relationships between neighbourhood residents in order to increase actions which support and develop the local environment.

7.7 Conclusions
Determining, as far as possible, what are the defining attributes of residential place attachment is vital in order to advance research in the field as well as to apply it effectively in if we see this as an important concept in neighbourhood planning and revitalisation, housing policy, tourism, and community development. Despite its importance, research has tended to either look for more predictor variables, thereby lengthening the shopping list of factors, or simply undertake confirmatory studies. However, this has not lead to any theoretical advances. Little progress has been made since Low and Altman’s book *Place Attachment* was published in 1992 (Lewicka, 2011b). This is generally argued to be primarily the result of incompatibility between the different disciplines and their theoretical positions (Patterson & Williams, 2005). Hernández et al. (2014, p.125) comment that “the substantial increase in the scientific production related to the study of the bonds between humans and places has not been accompanied by advances in the theoretical and empirical aspects”.

This thesis addresses issues which until now have not been explored. It unpicks the various definitions and conceptualisations of residential place attachment in order to construct a systematic neighbourhood attachment model which brings together from all the reliable and valid studies undertaken on the key aspects of residential place attachment. Moreover it recognises that place attachment may mean different things in different types of environment.
It then employs this model to explore differences in attachment in urban, semi-rural and rural environments, identifying various elements which are important for attachment to specific types of environment. Through the model and also employing semi-structured interviews, it identifies how reasons for attachment change over time. And finally, the thesis addresses an area where there is considerable confusion, that is, whether residential place attachment plays a role in sustainable behaviours, split here into community environmental actions and personal environmental actions.

In addressing these issues the research found residential place attachment to be a multi-dimensional model with variables contributing to some but not other factors. For example, feeling satisfied with one’s life in general was significantly related to two of the five factors, ‘Efficacy and control’ and ‘Social bonds’, suggesting that residents who feel they have some input into the running of the neighbourhood and have social ties in the neighbourhood will be more highly attached. Residential place attachment was found to differ depending on the type of environment. Rural residents were found to be significantly more highly attached than urban and semi-rural residents. It is concluded that physically important aspects of the place for attachment are met more in rural environments, aesthetical qualities, the presence and accessibility of green areas, a peaceful, quiet environment, historical aspects of the place and the location of the place.

No relationship was found between residential place attachment and community and personal environmental actions. However, social cohesion was found to moderate the relationship between residential place attachment and community environmental actions in rural environments. Living in a close-knit community and feeling a sense of responsibility for the neighbourhood as a whole, aspects uncovered in the interviews (Study 4), explain this finding.

Finally, although general sustainable behaviours, or personal environmental actions, are not significantly related to attachment, they are carried out if they are seen to be beneficial for the local environment and community in rural environments, another important finding for policy makers.
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Appendices

Appendix 1

Items included in Study 2 questionnaire

Emotions regarding place

Belonging

1. I feel a sense of belonging to my neighbourhood.
2. I belong to my neighbourhood.

Pride

3. I feel proud to live in my neighbourhood.
4. Living in my neighbourhood gives me a sense of pride.

Desire not to move away

5. I do not want to move away from my neighbourhood.
6. I would find it difficult emotionally to move away from my neighbourhood.

Memories

7. I have important memories of events in my neighbourhood.
8. My neighbourhood has provided me with important memories.

Meaning

9. My neighbourhood has special meaning for me.
10. For me, living in my neighbourhood has special meaning.

Desire to maintain closeness

11. I miss my neighbourhood when I am away.
12. When I am away from my neighbourhood I wish to be there.

Distinctiveness

13. I feel distinctive in a good way because I live in this neighbourhood.
14. Living in my neighbourhood makes me feel distinctive in a good way.

Self-esteem

15. I feel good about living in my neighbourhood.
16. Living in my neighbourhood makes me feel good.
Continuity

Intention to stay

17. I intend to stay in my neighbourhood indefinitely.
18. In the near future I intend to leave my neighbourhood.

Continuity

19. I feel like I’ve lived here a long time.
20. I feel like I haven’t lived here for long.

History of place

21. I know a lot about the history of my neighbourhood.
22. I have little knowledge about the history of my neighbourhood.

History of family

23. Previous generations of my family have lived in my neighbourhood.
24. My family has lived in my neighbourhood for a number of generations.

Identity

Identity and preferred type of environment

25. I like my neighbourhood because of the type of person I am.
26. Because of the type of person I am, I don’t like living in my neighbourhood.

Social Aspects

Social ties – family

27. Members of my family live in my neighbourhood.
28. Some of my relatives live in my neighbourhood.

Social ties – friends

29. I have close friends in my neighbourhood.
30. Good friends of mine live in my neighbourhood.

Contact with neighbours

31. I often talk to my neighbours.
32. I rarely talk to my neighbours.

Recognition

33. I recognise a lot of people when I walk around my neighbourhood.
34. When I walk around my neighbourhood I see a lot of people who I recognise.

Social support

35. There are people I can turn to for support in my neighbourhood.
36. I don’t have anyone for support in my neighbourhood.

**Sense of community**

37. I feel there is a real sense of community in my neighbourhood.
38. My neighbourhood has a good sense of community in my opinion.

**Stability of neighbourhood**

39. I believe most of my neighbours are long term residents.
40. I think few of my neighbours have lived in my neighbourhood for a long time.

**Values**

41. I have similar values to other people in my neighbourhood.
42. I don’t share values with people in my neighbourhood.

**Involvement/Efficacy**

**Improvements**

43. I have contributed to making improvements to my neighbourhood.
44. I have been involved in improving my neighbourhood.

**Interest in neighbourhood**

45. I am interested in what happens in my neighbourhood.
46. I have an interest in what goes on in my neighbourhood.

**Involvement in neighbourhood events**

47. I often take part in neighbourhood events.
48. I rarely take part in neighbourhood events.

**Efficacy**

49. I believe I have some control over what goes on in my neighbourhood.
50. I believe I have some control over the decisions made regarding my neighbourhood.

**Practical Aspects**

**Convenience/ease of getting around**

51. I find it easy to get to most places in my neighbourhood.
52. Most places are convenient for me to get to in my neighbourhood.

**Familiarity**

53. My neighbourhood feels very familiar to me.
54. My neighbourhood does not feel very familiar to me.
Financial Ties

55. I am financially tied to this neighbourhood.
56. I am unable to leave my neighbourhood due to financial reasons.

Work

57. I am tied to my neighbourhood because of my job.
58. Due to work commitments I am unable to leave my neighbourhood.

Comparison of place with others

59. My neighbourhood is better than other neighbourhoods I know.
60. In comparison to other neighbourhoods I know, mine is the best.

Feelings of safety

61. I live in a safe neighbourhood.
62. I don’t feel safe in my neighbourhood.

Perceived crime

63. There is not much crime in my neighbourhood.
64. Crime is an issue in my neighbourhood.
Appendix 2

Study 2: Questionnaire

I How you feel about your neighbourhood

The following statements are intended to find out how you feel about living in your neighbourhood.

Please indicate to what degree you agree with the following statements.

    Completely     Completely  
    Disagree   Agree  

    1  2  3  4  5  6  7

1. In comparison to other neighbourhoods I know, mine is the best.
2. I belong to my neighbourhood.
3. I am financially tied to this neighbourhood.
4. I like my neighbourhood because of the type of person I am.
5. I don’t feel particularly attached to my neighbourhood.
6. I have similar values to other people in my neighbourhood.
7. I have been involved in improving my neighbourhood.
8. I feel proud to live in my neighbourhood.
9. I don’t want to move away from my neighbourhood.
10. I have an interest in what goes on in my neighbourhood.
11. I intend to stay in my neighbourhood indefinitely.
12. For me, living in my neighbourhood has special meaning.
13. I would find it difficult emotionally to move away from my neighbourhood.
14. I believe I have some control over what goes on in my neighbourhood.
15. I find it easy to get to most places in my neighbourhood.
16. I am interested in what happens in my neighbourhood.
17. There is not much crime in my neighbourhood.
18. In the near future I intend to leave my neighbourhood.
19. When I am away from my neighbourhood I wish to be there.
20. My neighbourhood does not feel very familiar to me.
21. Due to work commitments I am unable to leave my neighbourhood.
22. I feel like I haven’t lived here for long.
23. I feel distinctive in a good way because I live in this neighbourhood.
24. Crime is an issue in my neighbourhood.
25. My neighbourhood is better than other neighbourhoods I know.
26. I am unable to leave my neighbourhood due to financial reasons.
27. I feel strongly attached to my neighbourhood.
28. I don’t share values with people in my neighbourhood.
29. I believe I have some control over the decisions made regarding my neighbourhood.
30. Living in my neighbourhood makes me feel distinctive in a good way.
31. My neighbourhood has special meaning for me.
32. I miss my neighbourhood when I am away.
33. Living in my neighbourhood gives me a sense of pride.
34. My neighbourhood feels very familiar to me.
35. My neighbourhood has provided me with important memories.
36. Living in my neighbourhood makes me feel good.
37. I have little knowledge about the history of my neighbourhood.
38. I don’t feel safe in my neighbourhood.
39. I have contributed to making improvements to my neighbourhood.
40. I am tied to my neighbourhood because of my job.
41. I have important memories of events in my neighbourhood.
42. Because of the type of person I am, I don’t like living in my neighbourhood.
43. I feel like I’ve lived here a long time.
44. I live in a safe neighbourhood.
45. I know a lot about the history of my neighbourhood.
46. I feel good about living in my neighbourhood.
47. Most places are convenient for me to get to in my neighbourhood.
48. I feel a sense of belonging to my neighbourhood.
49. I would say I feel very attached to my neighbourhood.
**Social ties**

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<tbody>
<tr>
<td></td>
<td>Completely</td>
<td></td>
<td>Completely</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

50. When I walk around my neighbourhood I see a lot of people who I recognise.

51. Good friends of mine live in my neighbourhood.

52. I rarely talk to my neighbours.

53. Some of my relatives live in my neighbourhood.

54. I often take part in neighbourhood events.

55. I think few of my neighbours have lived in my neighbourhood for a long time.

56. I have close friends in my neighbourhood.

57. I don’t have anyone for support in my neighbourhood.

58. Members of my family live in my neighbourhood.

59. My neighbourhood has a good sense of community in my opinion.

60. I believe most of my neighbours are long term residents.

61. There are people I can turn to for support in my neighbourhood.

62. I feel there is a real sense of community in my neighbourhood.

63. I recognise a lot of people when I walk around my neighbourhood.

64. My family has lived in my neighbourhood for a number of generations.

65. I rarely take part in neighbourhood events.

66. Previous generations of my family have lived in my neighbourhood.

67. I often talk to my neighbours.
To what extent would you describe your neighbourhood as

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Completely</th>
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<tr>
<td>1</td>
<td>2</td>
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<tr>
<td>3</td>
<td>4</td>
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<td>5</td>
<td>6</td>
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<td>7</td>
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</tr>
</tbody>
</table>

1. Stressful.
2. Exciting.
4. Relaxing.
5. Pleasant.
6. Depressing.

II Satisfaction with aspects of your neighbourhood

Please indicate to what extent you are satisfied with the following concerning your neighbourhood.

<table>
<thead>
<tr>
<th>Extremely dissatisfied</th>
<th>Extremely satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

1. Overall satisfaction with my neighbourhood.
2. Physical characteristics (e.g. buildings, monuments, rivers, trees, etc.)
3. Upkeep.
4. Services (e.g. health services, schools, shopping facilities, public transport, etc.)
5. Sport and leisure activities.
6. Parks and other green areas.
7. Environmental health (e.g. level of air pollution, level of noise pollution, traffic, etc.)
8. Privacy.
III Acceptable behaviour

And now we are going to ask you about what people in your neighbourhood think is acceptable behaviour. But first we want to know what you, personally, think.

<table>
<thead>
<tr>
<th>Not Acceptable</th>
<th>Perfectly Acceptable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 3 4 5 6 7</td>
</tr>
</tbody>
</table>

Setting the house thermostat to 20°

Taking 5 minutes to shower

Never spending any money on treats for myself

Heating rooms when no-one is in them

Keeping the house temperature to 18° or less

Spending 3 minutes in the shower

Being well-paid but never donating to charity

Heating the house to the usual temperature when away from home

Spending more than 10% of monthly take-home pay on treats for myself

Donating money to charity annually

Showering for more than 10 minutes

Making a donation to charity once a month or more

Heating the house to 22° or more

Spending a small amount monthly on treats for myself

What do you believe people in your neighbourhood think is acceptable behaviour?
Not Acceptable

Perfectly Acceptable

1 2 3 4 5 6 7

Setting the house thermostat to 20°

Taking 5 minutes to shower

Never spending any money on treats for myself

Heating rooms when no-one is in them

Keeping the house temperature to 18° or less

Spending 3 minutes in the shower

Being well-paid but never donating to charity

Heating the house to the usual temperature when away from home

Spending more than 10% of monthly take-home pay on treats for myself

Donating money to charity annually

Showering for more than 10 minutes

Making a donation to charity once a month or more

Heating the house to 22° or more

Spending a small amount monthly on treats for myself
Most people agree that it is a good idea to try to save energy. If you really had to save energy, which ones would you do?

<table>
<thead>
<tr>
<th>Definitely</th>
<th>Maybe</th>
<th>Definitely</th>
<th>Not</th>
<th>Would</th>
<th>Applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
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</tbody>
</table>

Take shorter showers

Use less water in the bath

Turn off the water when washing your hair in the shower

Turn down the house thermostat by 2°

Wash clothes at 30°

Use the tumble dryer less

**IV Finally we would like to find out some information about you**

1. Gender  M  F
2. Age (18-30, 31-45, 46-55, 56-65, 66+)
3. What is your postcode?
4. How long have you lived in your neighbourhood? _________
5. How many hours do you personally spend at home per week (including sleeping)?
6. Has your neighbourhood improved or got worse during the time that you have lived there?

<table>
<thead>
<tr>
<th>Much worse</th>
<th>About the same</th>
<th>Much better</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
7. Are you involved in any of the following groups?
   • Local residents’ association  Y / N
   • Scouts/ Guides  Y / N
   • Church  Y / N
   • Local environmental  Y / N
   • Transition town  Y / N
   • Other (please state)  ______________

8. How satisfied are you with your life in general?

   Extremely dissatisfied  Extremely satisfied
   1  2  3  4  5  6  7

Thank you for participating.
Appendix 3

Study 3: Questionnaire

(For rural residents ‘neighbourhood’ was replaced with ‘village’)

Are you attached to _______?

I Feelings about your neighbourhood

The following statements are intended to find out how you feel about living in your neighbourhood.

Please indicate to what degree you agree with the following statements.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completely Disagree</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

1. When I am away from my neighbourhood I wish to be there.
2. Good friends of mine live in my neighbourhood.
3. Living in my neighbourhood gives me a sense of pride.
4. I have contributed to making improvements to my neighbourhood.
5. I don’t feel safe in my neighbourhood.
6. There is not much crime in my neighbourhood.
7. I miss my neighbourhood when I am away.
8. For me, living in my neighbourhood has special meaning.
9. I have been involved in improving my neighbourhood.
10. My neighbourhood has provided me with important memories.
11. I live in a safe neighbourhood.
12. I don’t want to move away from my neighbourhood.
13. I believe I have some control over what goes on in my neighbourhood.
14. I have important memories of events in my neighbourhood.
15. When I walk around my neighbourhood I see a lot of people who I recognise.
16. I have close friends in my neighbourhood.
17. I believe I have some control over the decisions made regarding my neighbourhood.
18. I often talk to my neighbours.
19. My neighbourhood feels very familiar to me.
20. I rarely talk to my neighbours.

II Neighbourhood relations

The following statements are intended to find out your opinions about the relationships between people living in your neighbourhood.

Please indicate to what degree you agree with the following statements.

<table>
<thead>
<tr>
<th>Completely</th>
<th>Completely</th>
<th>Disagree</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>

21. People around here are willing to help their neighbours.
22. This is a close knit neighbourhood.
23. People in this neighbourhood can be trusted.
24. People in this neighbourhood generally do not get along with each other.
25. People in this neighbourhood do not share the same values.

III Your day to day actions

The following statements are intended to find out which of the following behaviours, inside and outside your home, you take part in.

Please indicate how often you take each action

<table>
<thead>
<tr>
<th>Never</th>
<th>Occasionally</th>
<th>Often</th>
<th>Always</th>
<th>Not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

26. Turn off lights you are not using.
27. Drive economically (e.g., braking or accelerating gently)
28. Use a car or van to travel, either as a driver or a passenger.
29. Walk, cycle or take public transport for short journeys (i.e., trips of less than 3 miles).
30. Use an alternative to travelling (e.g., shopping online).
31. Share a car journey with someone else.
32. Cut down on the amount you fly.
33. Buy environmentally friendly products.
34. Eat food which is organic, locally-grown or in season.
35. Avoid eating meat.
36. Buy products with less packaging.
37. Recycle.
38. Reuse or repair items instead of throwing them away.
40. Save water by taking shorter showers.
41. Turn off the tap while you brush your teeth.
42. Write to your MP about an environmental issue.
43. Take part in a protest about an environmental issue.
44. How often do you fly? __________ times per week/month/year (please circle)

Please indicate if you have taken this action in your present home.

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

45. Installed insulation products in your home.
46. Bought or built an energy efficient home.
47. Installed a more efficient heating system.
48. Installed a renewable energy system (e.g., solar panels, wind turbine) in your home.
49. Changed to a ‘green’ energy tariff for your home.
50. Bought a low-emission vehicle (e.g., hybrid, electric, biofuel, less than 1.4 L engine)
51. Bought a product to save water.
IV Community activities

The following statements are intended to find out about your participation in community activities in your neighbourhood.

52. Which of the following can be found in your neighbourhood?

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

(a) Skill share groups/workshops  
(b) Community owned shop  
(c) Shops selling local produce  
(d) Local market  
(e) Community farm/allotment/orchard  
(f) Community green spaces  
(g) Garden share scheme  
(h) Neighbourhood improvement projects? Please specify

______________________________

53. How often do you participate in them?

<table>
<thead>
<tr>
<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always/Every time they are held</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(a)</td>
<td>(b)</td>
<td>(c)</td>
<td>(d)</td>
<td>(e)</td>
<td>(f)</td>
</tr>
<tr>
<td></td>
<td>(g)</td>
<td>(h)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
54. Are you involved in any of the following groups?

- Local residents’ association Y / N
- Scouts/ Guides Y / N
- Church Y / N
- Local environmental Y / N
- Gardening group Y / N
- Transition town Y / N
- Other (please state) ________________

IV Information about you

Finally we would like to find out a little information about you.

55. Gender M F
56. Age 18-30 31-45 46-55 56-65 66+ (Please circle)
57. Ethnicity
White Asian/Asian British - Indian
- English/Welsh/Scottish/Northern Irish/British Irish - Pakistani
- Irish - Chinese
- Gypsy or Irish Traveller - Other __________
- Other __________

Mixed/multiple ethnic groups Black/African/Caribbean/Black British
- White and Black Caribbean - African
- White and Black African - Caribbean
- White and Asian - Other __________
- Other __________

Other ethnic group ________________

58. Qualifications

No formal qualifications GCSE/O Levels A Levels Professional qualification
Degree Postgraduate qualification Other (Please circle)
59. Employment
   Full-time  Part-time  Unemployed  Retired  Student  Other

60. Household income
   <£10,000  £10,001-£20,000  £20,001-£40,000  >£40,001  Not known

61. How long have you lived in your neighbourhood? _________

62. How many hours do you personally spend at home per week (including sleeping)? _______

63. Has your neighbourhood improved or got worse during the time that you have lived there?

   Much worse  About the same  Much better
   1     2     3     4     5     6     7

Thank you for participating.

Would you be willing to participate in an interview to discuss your feelings about your neighbourhood/village further? Y / N

If so, could you please provide an email address for us to contact you.

____________________________________

This will only be used to contact you regarding the interview and you are under no obligation to respond.
Appendix 4

Study 4: Interview Schedule

Warm up

Can you tell me a little about _________?

Main body

Presence and reasons for attachment/non-attachment

What do you like about living in your neighbourhood?

What feelings do you have about your neighbourhood?

Do you think you’ll ever move away from your neighbourhood? Why/why not?

History in place and development of attachment

Why did you move to this neighbourhood?

How long have you lived in this neighbourhood?

Have your feelings about the place changed over the time that you’ve been here? How?

(Why do you think your feelings have changed?)

Relationship between neighbours and presence of social cohesion

What’s your relationship like with your neighbours?

Would you say this is a close-knit neighbourhood?

Why do/don’t you think that is?

What community activities do you have here?

(Are you usually involved in them?)

Have there been any neighbourhood changes or improvements in the time that you’ve been here?

(Can you tell me about them/it?)

(Have you been involved with that in any way?)
To what extent do you feel responsible for the upkeep and improvement of the neighbourhood?

(Can you explain why you say that?)

*Engagement in sustainable behaviours*

Are you worried about the effects of climate change?

(Are you worried about the effects of climate change in your neighbourhood?)

What pro-environmental behaviours do you usually carry out?

Why do you carry out these behaviours?

Are you involved in a local environmental group?

(What types of activities do you do?)

*History of engagement in pro-environmental behaviours*

What were your reasons for joining?/ Have you thought about joining?

(Did you join the group/ do you participate in pro-environmental behaviours because of your feelings about your neighbourhood? Can you talk about this a little more?)

(Did your feelings about the neighbourhood change because of your involvement in the group? Can you talk about this a little more?)

*Cool off*

Are there any changes you’d like to see in your neighbourhood or are you completely happy with the way it is?